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THE COMPARISON OF STRESS IN TURKEY AND THE UK

ISIL ERTOREN

A Thesis submitted to the University of Bristol in accordance with the requirements of the degree of Doctor of Philosophy in the Faculty of Science.

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University of Bristol

Department of Psychology

ABSTRACT

The main aim of the thesis is the comparison of stress in Turkey and the UK using a variety of methods. The initial research involved four survey studies which examined occupational stress among junior house officers, senior house officers, and newly graduated teachers in Turkey and the UK to determine whether there were any differences which could not be attributed to specific features of job. In the fifth study, life stress in university students was studied rather than occupational stress. The fifth study gave a chance to eliminate some of the methodological problems which were found in the cross - cultural studies of occupational stress. The main interest in the fifth study was whether the relationship between psychosocial factors and stress differed in Turkey and England. Because of the problems with field studies, the last study was carried out in the laboratory. With this last study, the research moved from survey studies of chronic stress to an experimental investigation of acute stress and from empirical studies with no underlying model to a theory driven approach. The sixth study was based on the 'adaptive cost model' and examined the effects of noise on performance, effort, cardiovascular functions and mood in Turkey and England.

The results of the surveys showed that, except for the first study, there were no global differences between Turkey and the UK in terms of identification of frequency and intensity of occupational stress sources. However, the selective differences were found between the two countries. In general, Turkish subjects complained more about items related to the lack of support whereas British subjects reported more items related to work overload. In the fifth study, global differences were found between Turkish and English university students. Turkish students reported greater perceived stress, negative mood and physical and mental health problems. In contrast, English students reported more social support and positive mood. However, the results also showed that psychosocial factors and stress operated in the same way in both countries. In the sixth study, some global differences in performance and mood were found between the two countries, although the ' adaptive cost model ' was not supported in either Turkey or in England. Overall, these results suggest that differences in exposure to stress between Turkey and the UK may be the important factor rather than differences in response to stress.

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Every time, when I take my dictionary, I am finding that my dictionary is getting more worn than before which make me realise that how much this dictionary was

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DECLARATION

The study presented here is based entirely on my own work, except where other authors have been reffered to and acknowledged in the text. It has not been previously submitted for a degree this or any other university

ISIL ERTOREN

Signed .....

ANNEANNEM'E VE TEYZEM'E

(To my grandmother and aunty)

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CHAPTER 1: GENERAL INTRODUCTION

Initially, the aim was to investigate occupational stress in Turkey and the UK to determine whether there were differences which could not be attributed to specific features of the job. Following the identification of differences the aim was to examine whether effects generalise to life stress and whether psychosocial factors interact differently in the two countries. In light of the inevitable problems associated with field studies the final study was conducted in the laboratory. Over the course of the thesis there was a move from empirical studies to a more theory driven approach. Before describing the experimental work it is necessary to discuss cross- cultural differences, the concept of stress and different approaches to study of it.

1.1. Cross - cultural aspects: Definition of culture, value, individualism / collectivism

" Since demands may be perceived differently by people in the same environment, be it work place, or any other setting in the same culture, it stands to reason that the difference will be even greater when perceived by people in different cultures ." (Perlberg and Keinan, 1986, p. 74).

It seems that culture is an important factor that must be considered when studying phenomena such as stress. Hofstede (1980) defined culture as *' the collective programming of the mind which distinguishes the members of one human group from another '* (p. 25). In this sense, cultures vary not only as a function of their economic, physical and social environments, but also with regard to their values. The term *value* was defined by Hofstede (1980) as *'a broad tendency to prefer certain states of affairs over others '* (p.19). It seems that they are relatively stable features of individuals and societies and

therefore correspond in this regard to personality and cultural characteristics. In other words, culture consists of systems of values.

Cultures can be divided into interpretable dimensions which may help explain differences between cultures in behaviour patterns, norms, attitudes, and personality variables. Previous studies have analysed large numbers of cultures on a priori or at least post hoc dimensions. The most influential study of this type was carried by Hofstede (1980).

Hofstede (1980) investigated whether the differences in thinking and social action that exit between members of different modern nations. Therefore, he administered over 116,000 questionnaires (in 1968 and in 1972) to one large multinational business organization employees in 40 countries. From this study, Hofstede derived 4 dimensions namely power distance, uncertainty avoidance, individualism and masculinity. One of these four value dimensions, individualism, had been studied extensively by cross - cultural psychologists. Indeed, this dimension is considered by many to be a bipolar dimension, with individualism at one end and collectivism at the other (Kim et al., 1994).

Individualism and collectivism were defined by Hofstede (1983, p. 336 - 337) as follows: *"a preference for a loosely knit social framework in society in which individuals are supposed to take care of themselves and their immediate families only as opposed to .... a preference for a tightly knit social framework in which individuals can expect their relatives, clan or other in - group to look after them, in exchange for unquestioning loyalty ."*

Hui and Triandis (1986) also argued that collectivism is related to the following seven categories: *a) Consideration of implications (costs and benefits) of one's own decisions and / or actions for other people b) Sharing of material resources c) Sharing of nonmaterial resources (such as time and effort) d) Susceptibility to social influence e) Self - presentation*

and face - work f) Sharing of outcomes g) Feelings of involvement in others' lives. Hui and Triandis (1986) studied systematically this definition of individualism and collectivism. A sample of psychologists and anthropologists in different parts of the world were asked to fill in the questionnaire about their perception of individualism and collectivism. Forty six percent of the sample agreed with the seven aspects of conceptualisation of collectivism listed above. This agreement of social scientists who had different cultural backgrounds and were from different geographical locations showed that there is cross - cultural generality of the - collectivism (IC) construct.

Triandis et al. (1985) proposed that 'individualism - collectivism' be retained as the name for the dimension at the cultural level and ' idiocentric - allocentric' be used for the dimension at the individual level. They found that allocentric persons are more likely to state the values of cooperation, equality, and honesty. Those who are allocentric also reported receiving more social support and a better quality of social support. In contrast, idiocentric persons emphasise the values of comfortable life, competition, pleasure, and social recognition. Those who were idiocentric also report greater loneliness. Additional terms were also proposed by other scientists such as 'independent view' and ' interdependent view ' by Markus and Kitayama (1991) ; 'culture of separateness' and 'culture of relatedness' by Kagitcibasi (1985). People who have the independent view are described as 'egocentric, separate, autonomous, idiocentric, and self - contained' (p.226). On the other hand, interdependent persons are described as 'sociocentric, holistic, collective, allocentric, ensembled, constitutive, contextualist, and relational'(p.227). Culture of separateness reflects 'the opposite pattern of independent interpersonal relations, with separated and well - defined personal boundries' (p.62) and culture of relatedness refers to ' the family

culture and interpersonal relational patterns characterized by dependent - interdependent relations with overlapping personal boundaries '(p.62).

Kagitcibasi (1994) stated that the following four types of empirical evidence have put individualism and collectivism at the fore: First, it is possible to rank order societies with regards to where they stand on these variables. Secondly, subjects living in individualist societies tend to have individualist values and behaviours, whereas the subjects living in collectivist cultures tend to have collectivist values and behaviours. Thirdly, these predictions can also be used for a wide variety of behaviours. Finally, besides cultural differences, individualism and collectivism also show within culture variability, at the individual level, and hence this dimension can be used to explain individual as well as group differences in various psychological characteristics.

The great promise of individualism and collectivism as a flexible, predictive , explanatory and wide - ranging construct, has resulted in this dimension receiving tremendous attention in recent research. Results have showed that people from individualist cultures tend to have idiocentric values and behaviours , whereas persons from collectivist cultures tend to have allocentric values and behaviours. For example, Kashima and Triandis (1986) found that Americans were using individual coping mechanisms (e.g. self - serving attribution) more than Japanese. Similarly, Hui (1988) showed that there were relationships between an individualism / collectivism score and sharing responsibility among Chinese subjects but not among American subjects .

The results of previous studies on individualism and collectivism showed that there are three important issues to consider about this dimension. First of all, one must consider who the others are that seem to make a difference.

It was found by Triandis et al., (1988) that people from collectivist cultures showed these collectivist behaviours only with members of their 'in - group', when they were with 'out - group' members their behaviour was similar to people from individualistic cultures. Secondly, are these behaviours traitlike and stable across time and place or are they situationally variable? Finally, one must consider whether individualism and collectivism are polar opposites on a undimensional scale, or whether they are independent tendencies. Kashima (1987) and Kagitcibasi (1987) argued that ' both orientations can be seen in the same person at the same time' (p.58), whereas Triandis et al. (1986) suggested as a result of factor analysis that individualism and collectivism can be conceptualized as independent factors. In general, it seems that it be some time before these issues are resolved (see Berry et al., 1992 , p. 57-58).

The present research compares results found in Turkey and the UK on the individualism and collectivism dimension. In Hofstede's (1980) cross-national study, the UK was found to be one of the most individualist countries (ranking score of the UK was 3) whereas Turkey was found to be a collectivist country (ranking score of the Turkey was 28). In addition to these countries having different values, Turkey and the UK also show different characteristics regarding their political tensions, economy, social relationships and religions. These differences between the countries, suggested that Turkish and British subjects are suitable samples to use in a study of stress from a cross - cultural perspective .

In the next section, the definition of stress, response to stress and assessment of stress are considered.

1.2. Definition , effects and assessment of stress

1.2.1. Definition of stress

" The concept of stress is elusive because it is poorly defined. There is no single agreed definition in existence ." (Cox, 1978).

Stress has been investigated by medical, behavioural and social science researchers over the last 40 - 50 years and each discipline has examined stress from its own unique perspective. Therefore, as Cox stated, there are wide discrepancies concerning the concept and study of stress. However, a cursory survey of the available scientific literature indicate that stress studies can be easily placed into one of three categories presenting the main approaches to the problem of its definition. (Cox, 1978).
These categories are : (i) the response - based approach; (ii) the stimulus - based approach; (iii) the transactional approach.

1.2.1.1. The Response - Based Approach

In this approach, stress is usually treated as a dependent variable and is described with regards to the person's response to disturbing or noxious environments. The response -based approach received its initial impetus from the study of Hans Selye in the 1930 and 1940s. In 1936, Selye introduced the notion of stress related illness and the general adaptation syndrome (GAS). GAS theory included a three - stage process that describes how stress affects the organism. In the first stage, the alarm reaction, the body shows changes characteristic of initial exposure to the stressor. The second stage is resistance, in which the body appears to hold its own against the still present stressor. The final stage is exhaustion. Following long -term exposure to the same stressor, the body seemingly gives up and then final collapse occurs. Although the word stress was used

in a negative way, Selye (1976) mentioned that stress might be necessary for motivation, development and change. However, unwanted stressors are damaging and, therefore, stress becomes distress.

1.2.1.2. The Stimulus -Based Approach

This approach describes stress with regards to stimulus characteristics of environments which are considered as disturbing or noxious. In other words, a stimulus - based approach usually treats stress as an independent variable for study. This approach has also been called 'the engineering approach'. Most early research tried to identify sources of stress in the work environment. Workload (overload and underload), physical working conditions (noise, cold, heat etc.) and task circumstances received considerable attention. The major weakness of this approach was that attention was restricted to the effects of environmental conditions on objective measures without considering individual differences, variability in tolerance levels and expectations (see Cox, 1978; Sutherland and Cooper, 1990).

1.2.1.3. Transactional Approaches

This approach owes much to the work of Lazarus (1966, 1976). Stress is considered as an interaction between the person and his environment by the transactional approach. In other words, unlike the other approaches, stress is not thought of as a stimulus or response only. In this approach, it is important to consider cognitive appraisal of demands and the ability to meet that demand. Stress may arise when there is imbalance between perceived demand and the ability to cope with it. If the person uses successful coping resources this restores the balance but unsuccessful coping causes further exposure to stress.

1.2.2. Effects of stressors

Stressors cause strain in the person's biological, psychological, and social systems. Physiological consequences of stress are seen in the nervous system, the cardiovascular system and the endocrine system (e.g. increased blood pressure, heart rate, pulse rate, and skin conductivity). Cognitive responses to stress involve outcomes of the appraisal process and also include involuntary stress responses such as an inability to concentrate which can lead to performance impairment in cognitive tasks. Emotional responses include fear, anxiety, depression, anger etc. On the other hand, behavioural responses are often different depending on the nature of the stressful events. Two general categories of behavioural response are to fight against the stressor or withdraw from the stressful events (flight) (see Taylor, 1995).

1.2.3. The assessment of stress

Researchers have used several different stress indicators to measure a variety of these responses. These indicators include self reports of perceived stress, life change (emotional measures), task performance under stress (behavioural measures) or measurement of heart rate, etc. (physiological measurements). Although these measurements have sometimes been shown to be useful indicators, they have their own associated problems. For example, since people may want to present themselves in a good light, self - reported measurements are effected by a variety of biases. Similarly, decreases of performance can be due to fatigue or decreases of motivation, among other factors. Physiological measurements often require the use of expensive equipment and this equipment can itself cause stress. The problems of the individual stress indicators have led researchers to suggest the use of multiple measurements to examine stress (see Taylor, 1995).

Occupational, life and acute stress were examined using different methodologies in this thesis. Initially, survey studies were carried out and

occupational stress was examined in Turkey and the UK in the first four studies. Before giving a literature review of occupational stress in health professionals, doctors and teachers, the definition and causes of occupational stress are summarised below.

1.3. Definition and causes of occupational stress

Weiman (1977) described occupational stress as *" a set of factors which are experienced in relation to work and which affect the worker's psychological and physiological homeostasis."*

Beehr and Newman (1978) also defined job stress as : *" a situation wherein job - related factors interact with a worker to change (i.e. disturb or enhance) his or her psychological and or physiological condition such that the person (i.e. mind or body) is forced to deviate from normal "* (p.670).

Evidence from previous studies suggests that six major sources of occupational stress may be identified. These are: (1) factors intrinsic to the job such as workload, poor physical conditions, time pressures; (2) role in the organisation, often related to role conflict, responsibility for people; (3) career development problems e.g., lack of job security, over / under promotion; (4) relationships with others (i.e. poor relationships with colleagues, boss, subordinates), (5) organisational structure and climate, including lack of effective consultation, restrictions on behaviour, office politics etc., (6) the organizational interface with outside world e.g. company versus family demands or company versus own interests.

Sutherland and Cooper (1990) stated that " every job has potential stress agents but each will vary in terms of the degree of stress experienced from these six factors" (p.26). They also mentioned that stress in the job environment cannot be fully understood unless reference is made to sources

of life stress which involve the interface between home and work, and life cycles / events.

Some of the studies in this thesis examined occupational stress amongst the health professionals. Therefore, in the next section previous studies of occupational stress in health professionals are summarised.

1.3.1. Occupational stress in health professionals

"Individuals working as health professionals will perform more effectively, if they understand the role of stress in their own lives and the impact that it might have on others " (Sutherland & Cooper, 1990 ; p.165).

Sutherland and Cooper emphasised the following four factors which explain why an understanding of stress is important for all health professionals:

1. Health professionals play an important role in society and are needed and valued. If health professionals are faced with stress which could cause burnout, illness, reduced efficiency and performance etc., this also effects society as a whole.
2. Health professionals have to cope with face to face interactions with patients and be in situations involving physical suffering and death. Additionally, as skilled employees, the result of their work is highly visible such that their mistakes can cost their patients' lives. Responsibility for others is recognised as a major source of stress (Caplan et al., 1975) which may be the reason why health professionals are so vulnerable to stress.

3. Health professionals work in an environment where there is increased risk of disease or injury and this may cause even more stress. Additionally,

they are not allowed to show their own stress symptoms but are expected to show emotional involvement and concern for patients.

4. Many health professionals also work in boundary situations. For example the interface between the stress of the patients, other staff and the hospital. As was mentioned in the previous section, these boundary roles are usually highly stressful and are subject to high role conflict (Kahn, et al., 1964).

A growing body of stress research has been carried out with health professionals such as nurses, dentists, physicians, and general practitioners. Most of the previous stress studies on health professionals have primarily focused on determining specific work stressors. For example, Gray - Toft and Anderson (1981) and Dewe (1987) examined occupational stress sources among nurses, Firth - Cozens and Morrison (1989) investigated causes of occupational stress among junior house officers, and Cooper et al., (1978) researched sources of occupational stress among dentists. On the other hand, a few studies have investigated the relationships between occupational stress, job satisfaction and physical and mental illness . For example, Richardsen and Burke (1991) examined occupational stress and job satisfaction among Canadian physicians, Guppy and Gutteridge (1991) investigated job satisfaction and occupational stress among general hospital nursing staff and Tyler and Cushway (1992) studied stress, coping and mental well-being in nurses.

The next chapter reports studies which aimed to identify occupational stress sources among junior house officers. Therefore, in the next section, it is important to consider whether doctors suffer from stress and their main complaints about their work.

1.3.1.1. Occupational stress among doctors

Caplan (1994) recently examined stress, anxiety and depression in hospital consultants, general practitioners, and senior health service managers. The results of this study led him to conclude that 'the level of stress, anxiety, and depression in senior doctors and managers in the NHS seem to be high and perhaps higher than expected ' (p.1261). Another study carried out by Cooper et al. (1989), showed that male general practitioners had significantly higher anxiety scores than another normative group. Male general practitioners also reported lower levels of job satisfaction. Butterfield (1988) and Schenber (1987) also found that difficulties in marriage, substance abuse, depression and suicide emerge as a result of working as physicians. Previous studies also showed that alcohol consumption is higher among doctors. For example, Murray (1976) found that Scottish doctors reported alcohol dependence at a level two to seven times higher than control groups.

Recently, Ramirez et al. (1996) examined the relationship between consultants' mental health and their job stress and satisfaction. Eight hundred and eighty two consultants (gastroenterologists, surgeons, radiologists and oncologists) took part in their study. The General Health Questionnaire, Maslach Burnout Inventory, and a job stress and satisfaction questionnaire which was designed specifically for the study were distributed to the subjects. The results regarding job stress showed that the global ratings of job stress by consultants were associated with having high emotional exhaustion, high depersonalisation and psychiatric morbidity. The findings of the study considering sources of job stress indicated that work overload was identified as the most stressful factor, followed by feeling poorly managed and resourced, managerial responsibilities, and dealing with patients' suffering.

Richardsen and Burke (1991) carried out two studies to examine occupational stress and job satisfaction among physicians. They found in both studies that time pressure was identified as a cause of great stress among physicians. Other studies (Mawardi 1979, Linn et al., 1985, Charles et al., 1987) also examined sources of occupational stress among physicians and their results showed that heavy work loads, time 'on call', fatigue, conflicts between work and personal lives, dealing with patient oriented problems, dealing with life and death, and financial pressures were very stressful factors.

Conversely, Cooper , Rout and Farragher (1989) examined mental health, job satisfaction and job stress among general practitioners and they found that four jobs stressors, namely demands of the job and patients' expectations, interference with family life, constant interruptions at work and home, and practice administration were predictive of high levels of job dissatisfaction and reduced mental well-being.

Cartwright (1987) suggested that the needs, expectations and responses to stress will vary as a function of age, career stage and other commitments (cited by Sutherland and Cooper, 1990, p. 224). Junior house officers (JHOs) are at an early stage in their career and occupational stress in JHOs may be different from the job stress of physicians and general practitioners. Previous studies on occupational stress in junior house officers are reported in the next chapter.

1.3.2. Occupational stress among teachers

Previous research on occupational stress has usually examined jobs considered to be high risk - such as doctors (Firth - Cozens and Morrison, 1989 etc.) , executives (Van der Ploeg, Vis, Cooper & Spielberger, 1986), nurses (Gray - Toft and Anderson, 1981, Parkes, 1982), the police (Cooper

et al., 1982), and so on. However, over the last few years, occupations which were not previously thought to be particularly stressful have undergone transformation and change, and have been investigated (e.g. Cooper and Kelly, 1993). Teaching is one job which has undergone enormous legislative and occupational change during the last few years (Cole and Walker, 1989) and research has explored occupational stress among teachers as the pressure has increased for those teaching (Kyriacou and Pratt, 1985; Kyriacou, 1989 a).

Evidence from previous studies (Kyriacou & Sutcliffe, 1977, 1978, 1979a, 1979b) showed that teachers generally perceived their job to be stressful. For example, Kyriacou and Sutcliffe (1977, 1978, 1979a, 1979b) examined this topic in four questionnaire studies in a number of medium sized, mixed comprehensive schools in England. In the first study, 109 participants from 9 schools took part in their study. Twenty nine percent perceived their job as either very stressful or extremely stressful while only 1.8 % considered their work as being not at all stressful. In their second study, results indicated that 19.9 % of the 257 teachers in 16 schools found their job to be very stressful or extremely stressful while only 4.7 % of the sample considered their job not at all stressful. Of the 218 teachers from 16 schools who participated in the third study, 23.4 % rated their job as being either very stressful or extremely stressful. Finally, 130 teachers from 11 schools took part in their fourth study and 30.7 % of them considered their job to be either very or extremely stressful.

Borg (1990) did a literature review on occupational stress in British Educational settings. He concluded that *"there is no single predominant source of stress. Indeed, it seems that the sources of stress are many and varied, and that these tend to change from one context to another"* (p.114). On the other hand, he also stated that a number of stress sources seem to

have appeared in most of the reported studies of teachers stress such as Assistant Masters and Mistresses Association (1986), Kyriacou (1989, b) and Johnstone (1989). These fall into the following five major categories:

- pupil behaviour (e.g., indiscipline, disobedience, misbehaviour, poor motivation, poor attitudes to work);
- workload and time pressures (e.g., having too much work to do, meeting deadlines);
- working conditions (e.g., poor or inadequate equipment / facilities, large classes)
- relationships with colleagues (e.g., conflict with, and lack of support from, colleagues and management)
- school ethos (e.g., lack of agreement on standards)

(Borg, 1990, p. 114).

The most recent studies of occupational stress among teachers were carried out by Capel (1992) and Travers and Cooper, (1993). The findings of these studies which are summarised below, also supported the conclusions of Borg (1990).

Capel, (1992) investigated stress and burnout among teachers. The subjects completed 8 questionnaires and 405 teachers took part in her study. She found that too much work, not enough time to do the work, demands on after - school time, lack of recognition for extra work, too much paper work and constant monitoring of pupils' behaviour caused the highest level of stress among teachers.

Travers and Cooper (1993) examined mental health, job satisfaction and occupational stress among British teachers. Data were collected by a questionnaire and 1790 teachers took part in the study. They found that 'lack of support from the government', particularly in the form of changes

that they made which were quickly implemented (e.g. the national curriculum), caused great stress. In addition, teachers also complained about ' lack of status' and 'respect from society as a whole' and about their 'salary and promotional opportunities'. These two most dominant sources were followed by other types of stress which were related to the job of teaching itself (e.g. pupils' behavioural problems, workload in the form of lack of non - contact time and the need for assessment of pupils).

This section has considered whether teachers perceive their job as stressful and what their sources of job stress are. As mentioned in the previous section, identification of stress sources may show differences depending on the age and the career stage of the teachers. One of the studies reported in this thesis was designed to examine sources of occupational stress among newly graduated teachers in Turkey and Wales. Like junior house officers, newly graduated teachers are also at the beginning of their career. Therefore, occupational stress in newly graduated teachers may show some differences from the findings of other studies which were reported in this section. Previous studies which have specifically examined stress among newly graduated teachers, are reported in Chapter 5.

1.3.3. The cross-cultural differences in occupational stress

There are studies dealing with cross - cultural differences in stress in a variety of occupational groups. For example, factory workers (Cohen, 1976), university lecturers (Keinan and Perlberg, 1987), teachers (Dunham, 1980; Tokar and Feitler, 1986; Gaziel, 1993), managers (Cooper, 1984 ; Kirkcaldy and Cooper, 1992) and senior police managers (Kirkcaldy, et al., 1994). Most of these studies were carried out in European countries such as Germany, France, England, Ireland & Italy and most of these studies compared only two countries (except for the Cooper study). Some of these studies are briefly described in the next section.

Cooper (1984) examined executive stress in the following ten countries: England, Germany, America, Israel, Sweden, Japan, South Africa, Singapore, Nigeria, and Brazil. His results showed that executives from developing and rapidly changing countries (Brazil, Nigeria, Egypt, and Singapore) and Japan showed a higher incidence of mental stress symptoms and job dissatisfaction than their colleagues from other highly industrialised countries (e.g. West Germany, Sweden, USA). On the other hand, the results also showed that different stress sources were identified in different countries. For example, German executives reported that time pressure and deadlines caused great stress whereas Nigerian executives identified the 'inadequately trained subordinates', 'working long hours' and ' doing the job below the level of my competence' as causes of major stress.

Kirkcaldy and Cooper examined occupational stress among British and German managers. One hundred and thirty three German and 123 British managers took part in their study. They completed questionnaires assessing occupational stress and job satisfaction. The results regarding the job - related pressure showed that German managers revealed higher scores than their British counterparts on five of the six job - pressure scales.

Dunham (1980) carried out an exploratory comparative study among English and German teachers. Fifty nine German teachers and 69 English teachers took part in his study. The subjects completed a questionnaire about stressful situations and a check list of stress responses. The subjects were also interviewed by the researcher. The results indicated that poor staff communications and disruptive pupil behaviour were reported as causing the most stress by both German and English teachers. The findings of the study also showed that the English teachers reported more stressful situations than the German teachers.

Tokar and Feitler (1986) also investigated level of stress and sources of stress among American and British teachers. Seven hundred and seventy three middle school teachers participated in their study. They filled in

questionnaires collecting information on demographic factors, perceived job-related stress and sources of job related stress. The results showed that American teachers reported higher job-related stress scores than their English counterparts. American and English teachers identified different stress sources. Noisy pupils, too much work, inadequate disciplinary policy, and inadequate salary caused the most stress for American teachers. In contrast, English teachers reported that the following caused great stress: difficult classes, individual pupils who continually misbehave, little chance for advancement and trying to uphold values and standards.

Gaziel (1993) examined coping with occupational stress among Jewish and Arab teachers. Two hundred and twenty four Jewish and 149 Arab elementary school teachers were involved in the study. They completed a three - part questionnaire involving personal information, identifying stress sources (the Teaching Occupational Stress Inventory which consisted of four sub-scales) and coping strategies. The findings showed that Jewish teachers reported more feelings of occupational stress than the Arab teachers, with differences between Jewish and Arab teachers being found for three sub-scales of the Teaching Occupational Stress Inventory .

In conclusion, the above results suggest that overall stress scores between countries are different. However, the previous studies also showed inconsistency with regard to types of stress identified in the different studies. This could reflect the methods used and methodological problems in cross - cultural studies are discussed in the next section.

1.3.4. Methodological problems of cross-cultural studies of occupations

Some of the methodological problems of cross-cultural studies can be seen by considering a study by Keinan and Perlberg (1987). They compared Israeli faculty members with their American counterparts. The reason they chose to study faculty members was that they wanted to select an occupation with maximum cross-cultural similarity. However, they also mentioned that

it is almost impossible to identify an identical occupation in the two separate cultures. Although there were many similarities between Israeli and American faculty members, there were still a few differences between the two countries in terms of job requirements and the nature of occupational demands. For example, Israeli faculty members had to present papers at conferences in a foreign language and were paid extremely low salaries, and American faculty members often needed to move long distances to obtain employment or promotion. Comparison of the responses to the questionnaire indicated that both the Americans and the Israelis reported similar sources of stress. On the other hand, the results also showed that Israeli faculty members reported less intense stress than their American counterparts. The researchers suggest this was due to cultural variables. They also gave other explanations. One explanation was that Americans were more open, therefore they admitted their feelings more easily than the Israelis. Another explanation was that Israelis suffered from major stressors inherent in hyper inflation, living in a mixed society and may have been exposed to the effects of terrorism and war. Life in such circumstances may expose Israeli academics to more stressors outside work, and therefore, the pressures of work were less important for them. A final explanation given by researchers was that emotional reciprocity and social support were different in the two cultures. Israeli faculty members claimed more emotional reciprocity, and shared more positive interpersonal interactions than their American counterparts did.

As summarised in this section, there are methodological problems associated with cross - cultural studies. It is difficult to determine whether differences between countries are due to cultural differences or different features of the job in the two countries. Therefore, it was decided that different methodologies need to be used for examining stress in the two countries. During the first four studies, exposure to stress was examined. Another

problem with only measuring stress is that it doesn't tell anything about the effects of stress on the health and well - being of the person. It was decided, therefore, to examine this in the two countries and to do this with university students. Students were studied for three main reasons. First, there is already an extensive literature on stress in students (see below) and there have even been a few cross - cultural studies of stress in this group. Secondly, the issue of different jobs in the two countries is not relevant, although, of course, possible confounding factors are still present even when studying students. Finally, students are similar in age to JHOs and trainee teachers who were studied in the earlier parts of the research.

Another advantage of examining the effects of stress on health is that there are already established models of this process. This means that it is possible to examine not only whether stress and the outcome of stress differ in the two countries but whether psychosocial factors interact in the same or different way. This approach has the advantage that possible differences between countries can be examined in terms of variation in the independent variables and also by considering different associations between these and the health outcomes. Details of the relationship between psychosocial factors and health are given in section 1.4.2.

The following section reviews previous studies of stress in students to determine whether this group do have problems with stress.

1.4. Stress among university students

Previous studies of students often report that "....students expressed worry, anxiety or stress as a major theme in their lives " (Newton et al., 1984, p. 540). Similarly, other studies have found a high prevalence of emotional distress in students (e.g. Comstock and Slome, 1973; Moos and Van Dort, 1977). Comstock and Slome (1973) carried out a survey of 1,260 university students in America. Their results showed that 30 % of the sample complained about emotional problems. Similarly, Moos and Van Dort

(1977) examined physical and emotional symptoms among nearly 1,300 first year students from two contrasting university campuses and the findings of their study indicated that 25% to 75 % of the sample reported emotional symptoms at some time during their first year.

Studies carried out in the 1980s and 1990s, also showed that stress in college students has increased (Pinch, Heck and Vinal, 1986; Astin, et al. , 1988; Dunkel - Schetter and Lobel, 1990; Champbell, et al., 1992). Dunkel - Schetter and Lobel (1990) tried to examine the dimensions and extent of stress felt by undergraduates at UCLA which is a large public university in an urban setting. The series of surveys were carried out over three years. During the first year, they examined general stress. In the second year, they were interested in health habits and finally, in the third year, they focused on coping strategies used by undergraduate students to deal with stress. Each year, around 150 - 180 female and male students took part in their study. The surveys were conducted by telephone, with a computer - assisted telephone interviewing system. The interview included a specific set of questions which consisted of a variety of potentially stressful areas such as academic problems, and stress associated with the family, social life and finances. The findings of this study showed that one - third to one - half of the subjects stated that they often or very often experienced stress as students. The researchers concluded that "compared to college students of two decades ago, students today appear to be experiencing more and different kinds of stress. There are also signs that the stress experienced by college students today is similar in amount and type to that found in the general population" (p. 31).

Similarly, another recent study (Champbell, et al., 1992) examined perceived level of stress in university undergraduate students in Canada. 457 undergraduate students were involved in their study. Students completed a

questionnaire designed to evaluate how they perceived their stress level. The results showed that these university students reported experiencing excessive stress.

In Turkey, Ozbek et al. (1980) carried out a study among medical students in Ankara University and their results showed that 69.2 % of the medical students who completed the Cornell Medical Index showed serious psychological problems, whereas 18.5 % of the medical students who were interviewed and also completed the questionnaire, also showed these symptoms. On the other hand, other studies carried out among Turkish university students, have been mainly concerned with problems of the university students related to relationships with the opposite sex, family, physical health, drinking habits and drug use (cited by Gulerce, 1989). A more recent study (Akman, 1995) was also interested in adjustment levels of university students according to their sex, class, familial features and their accommodation during their graduate years. One thousand three hundred and eighteen university students at 35 different departments of universities in Ankara took part in her study. The Brief Symptom Inventory (BSI; Derogatis, 1992) was given to students to assess their adjustment levels. The findings of the study showed that the adjustment levels of female students, students who come from low socio-economic level families, those who stayed at the dormitory and students whose fathers left education after primary school were lower than the others.

As mentioned earlier, many previous studies of stress in university students showed clear evidence that a large number of university students suffer from stress during their university years. In the next section, previous cross - cultural studies of stress among university students are reported to see whether cultural differences emerge.

1.4.1. Cross - cultural stress studies in university students

There have been a few cross - cultural studies of stress in university students (Gutherie, et al., 1975; Dyal and Chan, 1985; Harari, Jones and Sek, 1988; Radford et al., 1993). Gutheria, et al. (1975) examined the frequency and pattern of responses to stress among female and male college students in four countries: the United States, the Philippines, France, and Haiti . The Somatic Perception Questionnaire (SPQ ; Stern and Higgins, 1969) was completed by about 100 female and 100 male college students from each country. Their results indicated that there were differences in the symptoms reported in the different countries. For example, female college students who were members of industrialised societies (US and France) complained of more mental and somatic symptoms than the samples from developing countries (Haiti, Philippines).

Dyal and Chan (1985) examined the frequency and intensity of stressful life events and distress among Chinese students at the University of Hong Kong, Chinese student sojourners at a Canadian University, and Euro - Canadian students. A gender x culture interaction was found for the total symptom score. Chinese female students, especially female sojourners reported more stress than Euro - Canadian female students. On the other hand, no cultural differences or gender differences were found with regards to the frequency of stressful life events. In other words, the difference was in the perception of stress not exposure to it.

Harari, et al. (1988) investigated stress syndromes and stress predictors in American and Polish college students. A total of 380 American and Polish college students took part in their study. The subjects completed Rotter's Internal - External Locus of Control Scale (Mirels, 1970), the Inventory of Socially Supportive Behaviours (ISSB; Barrera, Sandler & Ramsay,1981), the College Student Life Events Schedule (CSLES; Sandler & Lakey, 1982), the State - Trait Anxiety Inventory (STAI; Spielberger, Gorsuch & Lushese,

1970), and the Beck Depression Inventory (BDI; Beck, 1967). The results demonstrated that the American students showed more internal locus of control and reported more social support. On the other hand, Polish students scored higher on external locus of control, anxiety and depression.
Recently, Radford et al. (1993) examined cultural differences in decision - making self -esteem, decision - making stress, and coping styles in Japanese and Australian samples. Seven hundred and forty three Japanese and 309 Australian university students took part in their study. The findings of the study indicated that in comparison to Australian students, Japanese students reported a higher degree of stress but lower degree of self -esteem. The researchers stated that ' these findings are related to cross - cultural differences between Australia (an individualistic culture) and Japan (a collectivist or group - oriented culture) (p. 284).

On the basis of these results one might expect Turkish and UK students to differ in stressors they are exposed to and outcomes of this stress.

As mentioned earlier, in the fifth study, interest was in response to stress rather than exposure to stress. Therefore, effects of psychosocial factors (stress and social support) on health were examined in both countries. In the next sections, relationships between stress and health and the modifying effects of social support are summarised very briefly. These topics are reported in more detail in Chapter 6 .

1.4.2. The relationship between stress and health

Delongis (1985) suggested that the stress process is started when " *a situation occurs which the individual experiences as stressful, and negative emotions are generated by the individual. These emotions create a number of bodily changes, including and, perhaps most importantly, suppression of the functioning of the immune system. This then results in an increased*

vulnerability to disease" (cited by Wu and Lam, 1993). The impact of stress on both emotions and physical health is underlined by this model. Most of the earlier studies concentrated on major life events. However, another theoretical and methodological approach to stress has been proposed. Lazarus and Folkman (1984) drew attention to the cumulative impact of day to day events on the person. These day to day events were called hassles and uplifts (Delongis et al., 1982; Kanner et al., 1981). Hassles were defined as " the irritating, frustrating, distressing demands that to some degree characterise everyday transactions with the environment" (Kanner et al., 1981, p. 3). Many recent studies have examined the relationship between hassles and well-being. These studies have found that " individuals with relatively higher levels of everyday stress were likely to be psychologically and somatically worse off than those experiencing lower levels, regardless of the measure of daily stress or adaptational outcome used or the time period assessed" (cited by Wu et al., 1993, p. 330).

As a result of these previous studies suggested that daily hassles may be better predictors of symptoms than major life events, it was decided to look at effects of daily hassles on outcome measures in the fifth study.

The importance of social support has long been recognised and its relationship to stress well documented: e.g. " social support served as a moderator of stress , thus reducing its negative effects on psychological functioning " (Wu et al., 1993, p.331). The effects of social support on health outcomes was also investigated in the fifth study, and the next section briefly summarises evidence that social support modifies the effects of stress on health.

1.4.3. Social support and stress

Social support has been defined as " information from others that one is loved and cared for, esteemed and valued and part of network of

communication and mutual obligations (Cobb, 1976)" (cited by Taylor and Aspinwall, 1996, p. 92).

Many studies have been carried out to examine effects of social support on health and the results of these studies showed psychological and physical benefits of social support. For example, literature reviews (Kessler and McLeod, 1985; Cohen and Wills, 1985) reveal that social support has been found to be significantly related to well-being and with the absence of psychological distress in normal population samples. Previous studies also showed that social support can be more helpful in reducing psychological distress in vulnerable samples such as the recently widowed and the elderly (see Taylor and Aspinwall, 1996). Other results (reviewed by Cohen & Wills, 1985) also indicated that social support has been linked to mortality. For example, Berkman & Syme (1979) found that people who had a high quantity or quality of social support had lower mortality rates. Other studies have shown that social support also increases the prospects of recovery among people who are already ill (see Sarafino, 1994; Taylor, 1995).

Two alternative hypotheses have been suggested to explain the beneficial effects of social support on health. The main effect hypothesis proposes that social support is generally beneficial during nonstressful times as well as during stressful times. The buffering hypothesis proposes that social support is related to health only during periods of high stress. The evidence suggest that there are both direct effects and buffering effects of social support (see Taylor and Aspinwall, 1996).

More details on the definition of social support, types of social support, relationships between the social support and health and models of social support are given in Chapter 6.

Earlier in this chapter, previous cross-cultural studies of stress were reported. The next section summarises previous cross -cultural studies of social support to see whether cultural difference emerge in this area.

Social support has been examined from a cross - cultural perspective in many different contexts. For example, Eskin (1995) investigated suicidal behaviour as related to social support and assertiveness among Swedish and Turkish high school students. Six hundred and fifty two Swedish and 654 Turkish adolescents (aged 13 - 20 yr.) took part to his study. Eleven percent of Turkish and 9.4 % Swedish adolescents stated that they had made previous suicide attempts. The results indicated that the following factors were related to previous suicide attempts: previous psychiatric contact, female gender, low perceived family support , and suicide attempts in the family (for the Swedish group); suicide attempts in the family, low perceived family support, psychiatric disorder in the family and previous psychiatric contact variables (for the Turkish sample).

Liang and Bogat (1994) examined a stress buffering model of social support that integrated the issues of measure type, locus of control orientation and cultural influence. Two hundred Chinese and 198 Anglo - Americans college students participated in their study. They were compared on measures of hassles, social support, psychological adjustment, and locus of control. The results showed that both measure type and locus of control orientation mediated the process of support utilisation in each culture, but not in the same manner across cultures. The findings of the study also indicated that the stress buffering effects of perceived and received support were found only in internals for Anglo Americans whilst for Chinese, main effects and buffering from perceived support were found only for externals, and received support resulted in negative buffering effects.

Miller and Lloyd (1991) examined social support and its interactions with personality and childhood background as predictors of psychiatric symptoms among American and Scottish first year medical students. One hundred and ninety nine American and 181 Scottish medical students took part in their study. Different procedures were followed in the two samples. In America, in the initial phase of the study, personality was measured on entry and

social support was measured prior to first year examinations. In the second phase, the subjects completed the questionnaires in the week following first year end of year exams. The interval between assessments was nine months. In Scotland the subjects were interviewed within four weeks of enrolment by trained interviewers. Data were collected partly by self-completed questionnaires and partly by semi - structured interview. The subjects were interviewed again a few weeks prior to first year exams. The interval between assessments was 5 -6 months. Anxiety ratings, depression ratings and the General Health Questionnaire were used to measure psychiatric symptoms. The results showed that support from a relative, parental bonding and classmate contact were important for Scottish subjects whereas having local confidants was important for American subjects. Generally, it seems that the presence of support was related to lower symptoms. However, there were important exceptions which were similar in both centres. Marmot (1983) investigated the role of stress, and social and cultural factors in heart disease. Of major interest was whether the traditional Japanese culture may be protective against heart disease. The researchers classified Japanese men in California in relation to their upbringing and social assimilation. The findings of the study showed that men who were brought up in the traditional Japanese fashion and stayed within the Japanese ethnic group had lower heart disease prevalence than men who were brought up in a Western way and assimilated into a less supportive American culture.

It is clear from this review, however, that there has been no study interested in effects of psycho - social factors (e.g. hassles and social support) on outcome measures (mood, profile fatigue related syndromes, perceived stress scale and health related behaviours) from a cross cultural perspective. This issue was , therefore, examined in the present research.

Following the studies which examined occupational and life stress, the last study in this thesis examined acute stress. In addition the research moved from studies of chronic stress to investigation of effects of acute stress.

This was done for several reasons. Firstly, field studies of stress have general methodological problems. For example, it is impossible to control the stressor and difficult to assess the impact of other confounding factors. There is also the problem of causality and effects could reflect " self - selection " or some other bias which is difficult to identify without a baseline measurement. Precise or detailed measurements of a range of functions are also extremely difficult in the field. Laboratory studies of acute stress can overcome many of the above problems. For example, it is possible to take " pre - stress " baseline measures, control exposure to stress and measure a range of variables (e.g. mood, cognition and cardiovascular changes) over time. Unfortunately, this increased control is usually achieved at the expense of ecological validity.

One of the major advantages of laboratory studies is that sophisticated models of the effects of stress have been developed. This allows one to move from experiments with no underlying theoretical basis to the testing of precise hypotheses.

The above approach was used to compare the effects of experimentally induced acute stress on Turkish and the UK students and, specifically, the effects and after effects of noise on performance, cardiovascular functions, effort and mood were examined. Predictions based on the adaptive cost model were tested and this model and other effects of noise on performance are summarised in the next section.

1.5. Acute effects of experimentally - induced stress

Noise is one of the most prevalent environment stressors. However, reviews of the literature on noise indicate that there are inconsistencies across studies (Smith, 1993). Noise has been found to have negative effects, positive effects and no effects on human performance. However, these inconsistencies in the noise and performance literature can be explained by

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taking into account the nature of the stress (level of noise and types of noise), nature of the task (e.g. psychomotor tasks or tasks consisted of verbal material) and characteristics of the person doing the task such as gender or anxiety level. In other words, it seems that the effects of noise depend on context and culture might be a very important part of this context. This was the one of the reasons for using noise as a stressor in the last study. The second reason was practical one. Using and controlling noise as a stressor was easy in comparison to other environmental stressors. Finally, there is a vast literature on effects of noise on performance, and some well - established models.

Several theories have tried to explain why exposure to stressful factors such as noise cause negative effects on cognitive, emotional, physiological and behavioural functioning. Different theories address different processes. For example, one theory states that physiological arousal is central to the negative effects of stress, another one gives emotional responses to stress central status.

Overall, it seems that none of these theories can explain all the negative consequences of stress. An adaptive - cost hypothesis suggests that although humans can often adapt to extreme conditions, there are cumulative costs of adaptation. An advantage of the adaptive cost model is that it provides many opportunities for cross - cultural effects to manifest themselves. In other words, the adaptive cost model allows one to examine cultural differences in cognitive, emotional, motivation and physiological functioning. Therefore, the effects and after effects of noise on performance, cardiovascular functions, effort and mood in Turkey and England were examined in the sixth study and predictions based on the adaptive cost hypothesis.

An early form of this hypothesis, Selye (1956) proposed that there is a biological cost of the adaptive process whereas others such as Basowitzs et al., 1955, Dubos, 1965 and Wohlwill, 1966 have all taken similar views regarding behavioural responses to stressors. Selye (1956) stated that after prolonged exposure to a stressor, adaptive reserves may be drained and resistance may break down and, finally, exhaustion may occur. Essentially, Dubos has also made the same point that 'Although man is highly adaptable and can therefore achieve adjustments to extremely undesirable conditions, such adjustments often have .....indirect effects that are deleterious" (1968, p.139). Later on, Glass and Singer (1972) suggested that the processes of adaptation requires searching for appropriate coping responses and trying to redefine the stimulus. Indeed, the adaptive cost model has been examined by studying the effects and after - effects of noise. For example, Glass and Singer (1972) found that possible deleterious effects of noise could be prevented by increased effort but this had an effect on physiological functioning and could only be maintained for a short period. This meant that subjects who had been exposed to noise were less willing to expend effort on a difficult or frustrating task carried out after the noise was switched off. Indeed, the adaptive - cost hypothesis predicts that *" poorer performance on after-effects tasks should vary directly with degree of adaptation, since a greater degree of adaptation implies a greater amount of adaptive effort. Presumably, increased adaptive effort would deplete one's available psychic energies and would thus result in deficits on subsequent demanding tasks"* (cited by Cohen, 1980; p. 96 -97). Regarding this view of the adaptive cost model, it seems that the greater degree of adaptation the greater the cognitive and physiological cost and the longer the increase in negative affect and change in motivation. The previous studies which are relevant to the final testing the adaptive cost model in two cultures are reported in Chapter 7.

1.6. Issues covered in this thesis

It is apparent from the literature reviewed in this chapter that we know relatively little about cultural differences in perception of and response to stress.

The main aim of the thesis was examination of stress from cross-cultural perspective in Turkey and the UK. Six studies were carried out in both countries to investigate that topic. Different methods and measurements were used in these studies which gave an opportunity to compare the two countries with regard to occupational, life stress and acute stress.

The following issues were addressed in the studies:

1. Identification of the frequency and intensity of occupational stress among junior house officers in Turkey and Wales was investigated in the first study. This study investigated whether there was any difference between the frequency of exposure to stressors and intensity of response to stressors in the two countries. In addition, it tried to eliminate possible confounding factors which might influence differences between countries.

2. The second study aimed to examine whether results obtained in study 1 generalised to samples working in other locations and to consider possible confounding factors which were not investigated in the first study.

3. The third and fourth studies considered the frequency and intensity of occupational stress in other professionals in both countries (senior house officers & teachers). The aim of these studies was see if any differences between countries were due to occupation or career stage. Therefore, these studies were carried out among senior house officers and newly graduated teachers. Although senior house officers have similar to junior house officers in terms of their training and work in the same general environment, their job

responsibilities are different. They are also at a different stage of career. On the other hand, like junior house officers, newly graduated teachers are also at early stage of career but they are not health professionals.

4. In the fifth study, life stress in students was studied rather than occupational stress. The main interest was whether the relationship between psycho-social factors and stress differed in Turkey and England. Unlike the previous occupational studies, this study provided an opportunity to examine response to stress rather than exposure to stress. In addition, some of the methodological problems found with the cross - cultural studies of occupational stress were eliminated in this study.

5. Finally, the effects of acute stress on subjects in Turkey and the UK were investigated in the sixth study. The effects of noise on performance, effort, cardiovascular functions and mood was examined in Turkey and the UK. The aim was to examine these effects within the framework of the adaptive cost model. Unlike the other studies which examined chronic stress, this study examined acute stress.

The research, therefore, moved from survey studies of chronic stress to an experimental investigation of acute stress and from empirical studies with no underlying model to a theory driven approach.

CHAPTER 2: An experimental investigation of stress in junior house officers in Turkey and Wales

2.1. INTRODUCTION

This chapter reports the first experimental study of the thesis. Prior to this it reviews previous research on stress in junior house officers and contextual factors which influence stress in the medical profession. Following the review a number of hypotheses were proposed which were tested in a questionnaire study examining stress in junior house officers in Turkey and Wales.

2.1.1. Stress in junior house officers

Results suggest that unacceptable levels of job - related stress are observed in a variety of occupations. Health professionals are one of these occupational groups and evidence from a growing body of research suggests that the postgraduate year of medicine has been described as both physically and psychologically stressful (Reuben, 1985). Firth - Cozens (1989) also stated that *' junior doctors, and to a lesser extent medical students, suffer higher rates of stress and depression than the general population'*. Valko, and Clayton, (1975) stated that *'the internship year is a house officer's first exposure to sole responsibility in patient management and also it is usually the most stressful year for a house officer in regards to working hours and amount of work'*.

Researchers have usually used a qualitative methodology (Firth - Cozens, and Morrison, 1989) and questionnaires (Firth - Cozens, 1987; Firth - Cozens, 1990) to examine stress in junior house officers. The general findings of studies of stress among junior house officers have indicated that overwork (Firth - Cozens, and Morrison, 1989; Firth - Cozens, 1987; 1990), effects on personal life, serious treatment failures, and talking to distressed relatives (Firth - Cozens, J., 1987; 1990) were identified as the most stressful

aspects of their jobs. Except for one study (Firth - Cozens and Morrison, 1989), previous studies have not distinguished between frequency of exposure to stressors and intensity of response to stressors by junior house officers. Firth - Cozens and Morrison (1989) asked JHOs to describe recent stressful events and rate how stressful these incidents were. One hundred and seventy three subjects completed the questionnaire. The results indicated that 'dealing with death and dying' were commonly reported, as were 'problems with relationships with senior doctors', 'personally making mistakes', and 'overwork'. On the other hand, 'overwork' was identified as causing the highest stress levels, followed by 'dealing with patients' relatives', 'dealing with death and dying', and 'problems with relationships with senior doctors'.

As the Firth - Cozens and Morrison (1989) study showed, there were differences between identification of frequency and intensity of job related stress sources among junior house officers. Therefore, in this study, it was decided to examine whether any differences in reported stress reflect frequency of exposure to stress or response to it. The present study also focused on the question of whether there are global differences between the countries or whether selective effects are observed with certain types of stress being more prevalent than others in particular countries.

It is impossible on the basis of the existing literature to know which pattern is most likely. Some studies have shown global differences between countries (e.g. Dunham, 1980; Kircaldy and Cooper, 1992; Gaziel, 1993). Conversely, other studies have indicated selective differences. For example, Cooper (1984) examined executive stress in ten countries namely England, Germany, America, Israel, Sweden, Japan, South Africa, Singapore, Nigeria and Brazil and then he concluded as a result of his study that *"each country seems to have its own unique source or pattern of stressors"*.

2. 1. 2. Effects of contextual factors: gender & types of hospital unit

The following sections summarise the effects of gender and hospital unit on occupational stress in health professionals. It is important to consider such factors in cross - cultural studies of junior house officers for two reasons. First, they may interact with country, with certain sub - groups in a particular country being especially vulnerable. Secondly, they may account for a considerable part of the variance which, if not considered will inflate the error term.

2.1.2.1. Gender effect

Identification of sources of stress as a function of gender of junior house officers was examined by Firth - Cozens (1987) and Firth - Cozens and Morrison (1989). The results of both studies revealed no gender differences in the reported sources of stress. However, Firth - Cozens (1987) found that while female junior house officers were not significantly more stressed than men they were suffering more depression than their male colleagues. Similarly, Kirby Hsu and Marshall (1987) also investigated the prevalence of depression and distress among interns, residents and fellows in Canada. Their results showed that depression was most prevalent in the first year of postgraduate training and women had higher depression scores than men.

Gender effects have also been examined in other health professionals such as physicians, general practitioners etc., and in general, although some studies have shown that *sources of stress may be different for male and female doctors and pressures may be greater for women* (Cartwright, 1987; Cooper et. al., 1989), the overall pattern is inconsistent as can be seen from the studies summarised below.

Burke and Richardson (1991) examined sex differences in occupational stress among physicians. Two hundred and twenty eight female and 1859 male physicians participated in their study. A seven - page questionnaire

collected information about overall stress, sources of stress, consequences of stress, demographic characteristics etc. The findings of their study indicated that there were no significant differences with regard to overall stress scores between male and female physicians. Similar sources of stress were also reported by both genders. A slight differences between female and male physicians was only found for one item which was "economic concern". More male physicians reported economic concerns as a major source of stress than did female physicians.

Richardson and Burke (1991) investigated sex differences in the nature of occupational stress experienced by physicians. Two thousand five hundred and eighty four physicians took part in their study. About 10% of the participants were female. The subjects completed an eight page questionnaire which included a number of measures dealing with stress and satisfaction in medical practice, demographic variables etc. Regarding occupational stress, a small but significant difference was found in terms of overall stress. Women physicians had slightly higher overall stress than their male counterparts. The results on intensity of stress showed great similarity between female and male physicians, except for three types of stress. Women physicians had higher stress scores on ' the need to maintain their own level of knowledge ' and 'counselling non - medical problems' than did men, whereas male physicians claimed more stress related to ' maintaining an adequate income'.

Cooper, Rout and Faragher (1989) examined sources of job stress among general practitioners in England. One thousand four hundred and seventy four male and 343 female general practitioners participated in their study. The subjects completed questionnaires collecting information about job stress, mental health, job satisfaction, demographic variables etc. Their results on gender effects indicated that female general practitioners complained about the job interfering with their family life, whereas male

general practitioners reported more stress associated with the work related aspects of the job (practice administration, job demands).

2.1.2.2. Effects of type of hospital units

Most of the previous research on the effect of types of hospital unit on stress levels has been carried out among nurses. The results from these studies suggest that *" certain hospital units expose nursing staff to higher levels of stress; for example, intensive and coronary units "* (Gray - Toft and Anderson, 1981). Gray - Toft and Anderson (1981) examined the sources and frequency of stress among nurses working on different hospital units. Their study was carried out in five hospital units: medicine, surgery, cardiovascular surgery, oncology and hospices. These units were chosen because in each unit different types of nursing care were required which may expose nurses to different stress sources. The findings of their study indicated that there were no differences in terms of identification of major stress sources, as a function of unit. However, the total stress scores revealed that nurses on the medical unit had higher stress scores than nurses on the hospice and surgical units. Indeed, nurses on the hospice unit had lower total stress scores than nurses working on any of the other units.

Parkes (1982) examined occupational stress among student nurses who experienced both medical and surgical nursing. She compared a medical and surgical unit. Parkes found that while medical units lead to greater affective demands on nurses, surgical units give more opportunities for the acquisition and use of technical skills . The results also showed that subjects in the medical unit reported receiving lower social support than their counterparts in the surgical units.

In summary, previous results suggest that it is important to examine gender and types of hospital unit when considering occupational stress among health professionals.

2.1.3. Cross - cultural studies of junior house officers

The literature shows there are no previous cross - cultural studies comparing junior house officers. The first study aimed, therefore, to provide preliminary data on this issue. Turkey and Wales were the countries examined and they show different characteristics considering their economy, political tensions, religious and social relationships. Unlike Wales, *"Turkey is currently still undergoing the combination of rapid population growth, urbanisation, industrialisation and socio - cultural transformation which most West European countries experienced a hundred years ago.* " (cited by Barchard, 1985). In addition, as mentioned in previous chapter, Turkey was found to be on the collectivist side whilst the UK was found to be on the individualist side (using Hofstede's classification). Therefore, considering all those different characteristics of two country, it was assumed that there may be cross - cultural differences in stress between Turkey and Wales.

2.1.4. Differences in the training of Welsh and Turkish junior house officers

Keinan and Perlberg (1987) state that it is almost impossible to identify identical occupations in two separate cultures. Indeed, working as junior house officers in Turkey and Wales show some differences. For instance, Welsh junior house officers receive five years training and after the graduation from the university, they work in the hospital as a junior house officer. Conversely, Turkish junior house officers also receive five years training but they work as a junior house officers in the hospital before graduation. Therefore, Turkish junior house officers do not earn any money whilst Welsh ones get a salary for working as junior house officers.

Similarly, during the one year training, Welsh junior house officers work six months in a surgery or medicine unit and then they work another six months

in the other unit. On the hand, Turkish junior house officers work two months in each unit (paediatrics, emergency, ENT etc.) .

Postgraduate training in the two countries also show some differences regarding working an on - call rota and shiftwork. Unlike the Welsh junior house officers, Turkish junior house officers do not work an on- call rota but they have shiftwork. In addition, there are differences in the working conditions of Welsh and Turkish junior house officers (time of working on unit, working in different units etc.). Finally, it is clear that very few investigations of occupational stress among junior house officers have considered the modifying effects of gender, types of hospital unit and effects of duration on the unit. Therefore, another hypothesis examined in the present study was whether any differences apparent between countries are modified by gender, types of hospital unit and duration on the unit.

2.2. AIMS OF THE PRESENT STUDY

The following research questions were addressed in this first study:

1. Are there differences between stress sources identified by junior house officers from Wales and Turkey?
2. Are there global differences between the countries or will selective effects be observed for certain types of stress?
3. Do any differences reflect frequency of exposure to stress or response to it?
4. Are any differences between countries modified by gender, types of hospital unit and duration on the unit?

2.3. METHOD

2.3.1. Design of the study

A cross - sectional design was used as a longitudinal study was not possible for practical reasons.

2.3.2. Subjects

The questionnaires (see Appendix A) were distributed to all junior house officers through the hospital personnel service in both countries. In Wales, when subjects filled in the questionnaires, they sent them back to the researcher in stamped addressed envelopes which were already distributed with the questionnaires. Conversely, Turkish subjects returned the questionnaire to the personnel service after they filled in them and then the questionnaires were collected from the personnel service by the researcher. More than 100 questionnaires were distributed to the subjects in both countries. Seventy two completed questionnaires were returned by Turkish junior house officers while only 33 questionnaires were sent back by Welsh junior house officers. Sixteen of the questionnaires which were completed by Turkish subjects were not used because the units they were working on when they filled in the questionnaire were not comparable with those in Wales. Overall, 89 junior house officers completed the questionnaire. Of these 56 were from Turkey and 33 were from Wales. Forty three percent of the sample were female whereas fifty seven percent of the sample were male. The age range was 22 - 30 years, with a mean of 24.3 years. Eighty of the sample were single whilst 9 of them were married (see Table 2.3.1 for more detailed information).

Table 2.3.1. Demographic data {N (Wales)=33, N (Turkey)=56 }

Variable		WALES		TURKEY	
		N	%	N	%
Gender	Female	16	49	22	39
	Male	17	51	34	61
Age	22 - 25 years old	26	79	48	87
	26 - 30 years old	7	21	7	13
	Mean	25.06		23.77	
	SD.	1.80		1.33	
	Ranges (min./max.)	22 / 30		22 / 27	
Marital Status	Single	28	85	51	91
	Married	4	12	5	9
	Others	1	3	-	-
Types of hospital unit	Medicine	17	48	14	27
	Surgery	16	52	38	73
Duration on the unit	2 months or less	22	67	56	100
	More than 2 months	11	33	-	-

2.3.3. Measurements

Two questionnaires were designed to examine the identification of frequency and intensity of sources of stress among junior house officers. These questionnaires consisted of the 31 potentially stressful situations identified in the previous studies (Wolfgang, 1988; Harris, 1989; Gray - Toft and Anderson, 1981 ; Cooper, et al., 1989 , see in Appendix A). Some of these stressful situations were 'work overload', 'dealing with death and dying', 'fear of making a mistake about treatment', 'lack of teaching' etc. Subjects responded to the questions about frequency of stress using a 4 - point rating : never (0), occasionally (1), frequently (2) and very frequently (3). To understand how much stress they experienced, following four

responses were also provided: no stress (0), little stress (1), moderate stress (2) and great stress (3).

In addition to these questionnaires, a one page questionnaire was prepared to record information on age, sex, marital status, which unit they were working on, and how long they had been working on the unit.

The questionnaire was translated from English to Turkish and back translated by three Turkish university students who were doing PhDs in the University of Bristol.

The major problem with the questionnaires were that they were based on previous studies in western countries. The applicability of the items to Turkey was, therefore, not known.

2.4. RESULTS

Rationale behind analyses:

Initial analyses considered the overall stress scores. Analyses examined the frequency, intensity and intensity co-varying frequency. Further analyses were then conducted on the individual items. In the first set of analyses only the country was distinguished. Following this, gender, types of hospital unit and duration on the unit were added to the analyses.

Statistical tests:

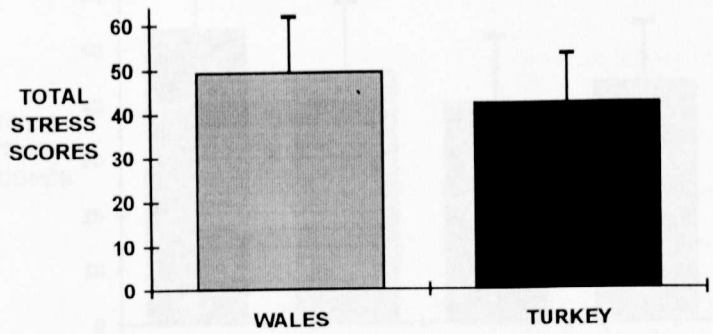
Analyses of variance and co-variance were carried out. Initially, a Levene's test of equality of variance was considered. If this was not significant the statistics from the analyses of variance were examined. However, if the variances were not equal statistics from the Brown - Forsythe test were considered. This last test allows one to compare means without assuming equality of variance. However, this is achieved at the cost of losing degrees of freedom. Hence, some analyses reported here have different degrees of freedom compared to the ANOVA analyses.

2.4.1. Overall stress scores (Frequency, intensity and intensity covarying frequency)

2.4.1.1. Country effect

The results indicated that there was a main effect of country in terms of the total frequency of stress scores ($F=8.25$, $df=1,87$, $p < 0.01$), with the Welsh junior house officers reporting more frequent exposure to stressors than their Turkish counterparts (see Figure 2.4.1.1). However, the main effect of country was not significant for either the total intensity score or the total intensity score with total frequency of stress covaried.

FIGURE 2.4.1.1. MEAN TOTAL FREQUENCY OF STRESS SCORES IN THE TWO COUNTRIES
(Maximum possible score=93)
(Standard deviations shown as bars)



2.4.1.2. Gender effects

An interaction was found between gender and country for the total frequency of stress score ($F=4.78$, $df=1,85$, $p < 0.05$; see Figure 2.4.1.2). A Tukey test revealed that the Welsh female JHOs (mean= 53.38, sd. 11.67) reported more frequent stress than both the Turkish male (mean= 43.44, sd= 10.60) ($p < 0.05$) and female JHOs (mean= 40.05, sd= 11.79) (p's < 0.01 respectively). On the other hand, Welsh male junior house officers

(mean=45.71, sd=12.30) were not significantly different from the Turkish groups.

An interaction was also found between gender and country regarding the total intensity score when the total frequency of stress score was covaried ($F= 5.52$, $df= 1,86$, $p < 0.05$; see Figure 2.4.1.3). Post hoc analysis did not indicate any significant differences between the four groups. However, numerically, it seems that the Turkish female JHOs (mean= 58.50, se=3.00) reported more intense stress than the Welsh female JHOs (mean= 40.55, se. 4.22) and the male junior house officers in both countries (mean Welsh male JHOs= 45.96, se= 3.90 ; mean Turkish male JHOs =46.74, se=2.76).

FIGURE 2.4.1.2. INTERACTION BETWEEN COUNTRY AND GENDER FOR THE MEAN TOTAL FREQUENCY STRESS SCORES
(S.d.s shown as bars)

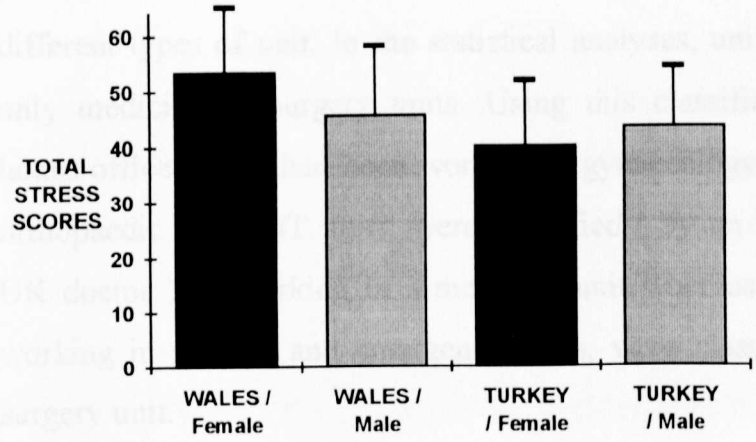
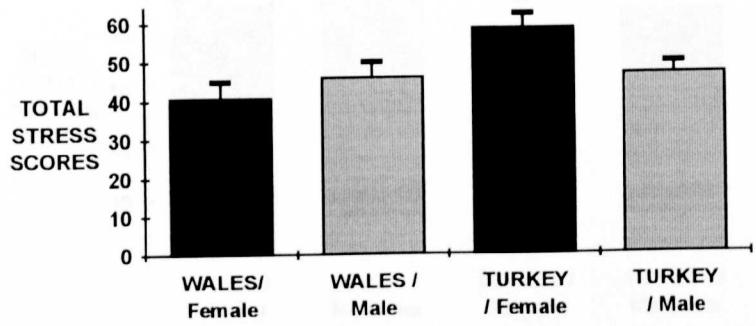


FIGURE 2.4.1.3. INTERACTION BETWEEN COUNTRY AND GENDER FOR THE ADJUSTED MEAN TOTAL INTENSITY WHEN CONTROLLING FREQUENCY STRESS SCORES
(S.e.s shown as bars)

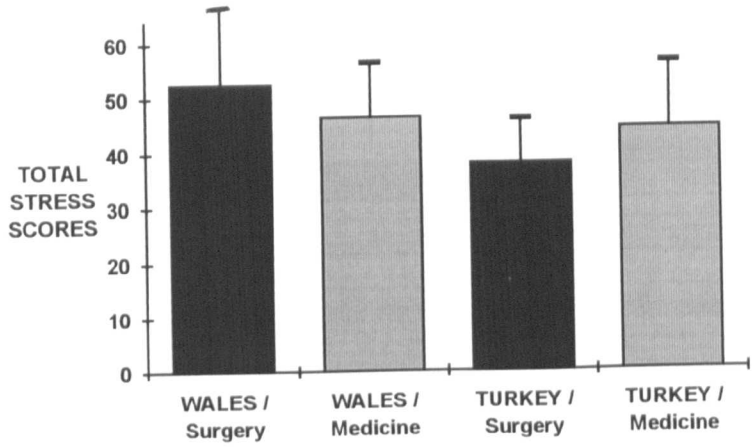


2.4.1.3. Effects of types of hospital unit

As mentioned earlier, there was a difference between Turkish and Welsh junior house officers in terms of the frequency of changes between the different types of unit. In the statistical analyses, units were categorised as only medicine or surgery units. Using this classification, Turkish junior house officers who had been working in gynaecology, paediatric, medicine, orthopaedic and ENT units, were classified (by an independent judge - a UK doctor) as working in a medicine unit whereas others who had been working in surgery and emergency units, were classified as working in a surgery unit.

The results showed that there was an interaction ($F=5.14$, $df=1,81$, $p < 0.05$) between country and units with regards to the total frequency of stress score. Application of a Tukey's test demonstrated that Welsh junior house officers on the surgery unit reported more frequent stress than the Turkish JHO's on the surgery unit ($p < 0.01$) (see Figure 2.4.1.4), whereas the Welsh JHOs on the medicine unit were not significantly different from them.

FIGURE 2.4.1.4. INTERACTION BETWEEN COUNTRY AND TYPES OF HOSPITAL UNIT FOR THE MEAN TOTAL FREQUENCY STRESS SCORES
(S.d.s shown as bars)



2.4.1.4. Effects of duration on the unit

As mentioned earlier, Turkish subjects had only been working for 2 months or less on that unit whilst some Welsh subjects had been working longer. It could be that the difference between countries reflected this. The Welsh JHOs were, therefore, subdivided into these who had been working < 2 months and those > 2 months on the current unit. If duration was important, then only the > 2 months group should be different from the Turkish JHOs. It was found that there was a difference between the three groups in terms of the total frequency of stress score ($F=5.47$, $df= 2, 86$, $p < 0.01$). However, it was the Welsh JHOs who had been working a short time who reported the most frequent exposure to stressors. A Tukey test demonstrated that Welsh junior house officers who had been working for a short period when they filled in questionnaires, reported more frequent exposure to stressors than the Turkish junior house officers ($p < 0.01$) (see Figure 2.4.1.5). However, no significant effects of duration on the unit were found for intensity of stress and intensity of stress when controlling frequency of exposure.

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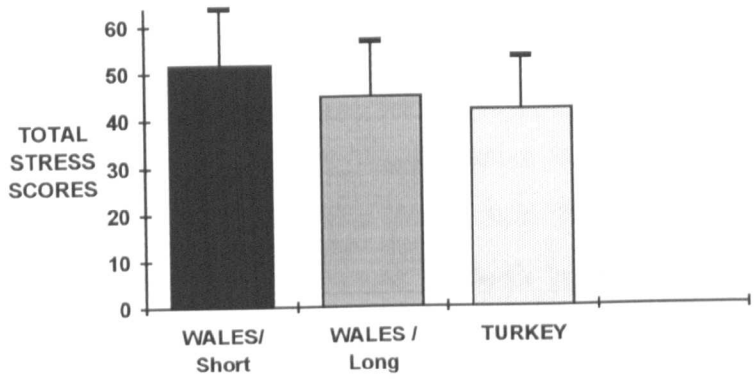
FIGURE 2.4.1.5. MEAN TOTAL FREQUENCY OF STRESS SCORES FOR TURKISH JHOs, WELSH JHOs WHO HAD BEEN ON A UNIT FOR < 2 MONTHS & WELSH JHOs WHO HAD BEEN ON A UNIT FOR > 2 MONTHS
(S.d.s shown as bars)



2.4.1.5. Summary of analyses of overall stress scores

The main points from these analyses may be summarised as follows:

1. Welsh junior house officers report more frequent exposure to stressors.
2. There were no overall difference between countries with regard to intensity of stress, or intensity when frequency of exposure was covaried.
3. The difference between countries found for frequency of exposure to stressors was largely due to the Welsh female subjects. On the other hand, Turkish female subjects reported greater intensity of stress when frequency was co-varied.
4. Country differences in frequency of exposure to stressors were bigger for surgery units than medical units.
5. Welsh JHOs who had been working less than two months reported the most frequent exposure to stressors.

2.4.2. Specific types of stress - Differences in frequency and intensity of individual items.

2.4.2.1. Identification of frequency of stress sources : Differences between countries

The results showed that Welsh junior house officers reported significantly greater frequency of stress scores than their Turkish counterparts for 14 out of 31 items (45%) whereas Turkish junior house officers only reported greater frequency for 6 items (19%). When gender and types of hospital unit were included in the analyses, the country effect held up for 12 items where the Welsh sample reported higher scores and 4 items where the Turkish sample reported higher scores. On the other hand, 11 items out of 31 (36%) did not show any significant differences between two countries (see Table 1.1 in Appendix 1). The items which showed significant differences between Wales and Turkey, are shown in Table 2.4.2.1 and Table 2.4.2.2.

It seems that items that were reported as more frequent in Wales were not just the very frequent items. Even some of them were "occasional" in Wales but there were often " never " in Turkey. For example, for the items *"dealing with new technology"*, and *"caring for the emotional needs of patients"*, differences were restricted to middle two for the Welsh sample whilst for the same items, differences were restricted to less frequent end of scale for the Turkish sample. A similar picture was seen for those more frequent in Turkey. For example, most of Turkish junior house officers found the items *"dealing with your relatives as patient"*, and *"dealing with your friends as patients"*, occasionally stressful whereas most of Welsh JHOs reported those items never caused stress.

Table 2.4.2.1. Types of stress more frequently reported by Welsh junior house officers than Turkish JHOs (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. / P's Mean / S.D.
Interruptions of work by other people's phone calls *					**18.25 /1,87/ p<0.001**
Wales-	0	3	24	73	2.70 / 0.53
Turkey-	23	52	18	7	1.09 / 0.84
Dealing with long working hours *					**16.95 /1,87/ p<0.001**
Wales-	0	15	27	58	2.42 / 0.75
Turkey-	3	36	45	16	1.73 / 0.77
Work interferes with domestic life *					**32.98 /1,87/ p< 0.001**
Wales-	3	7	45	45	2.33 / 0.74
Turkey-	11	52	28	9	1.36 / 0.65
Number of beds responsible for *					**5.97 / 1,42 / p < 0.05**
Wales-	3	39	29	29	2.45 / 1.73
Turkey-	13	25	46	16	1.66 / 0.90
Problems with senior doctors *					**10.19 / 1,38 / p< 0.01**
Wales-	21	32	18	29	2.21 / 1.93
Turkey-	20	57	18	5	1.09 / 0.77
Problems with nurses *					**17.40 / 1,41/p < 0.001**
Wales-	7	25	46	22	2.45 / 1.72
Turkey-	2	15	22	07	1.12 / 0.83
Work overload *					**8.44 / 1,82 /p< 0.01**
Wales-	0	21	58	21	2.00 / 0.66
Turkey-	13	38	36	14	1.52 / 0.89
Problems with other junior house officers *					**5.61 / 1,35 / p< 0.05**
Wales-	41	38	4	17	1.58 / 1.95
Turkey-	32	61	7	0	0.75 / 0.58
Dealing with death and dying *					**8.57 / 1,87 / p < 0.01**
Wales-	0	42	42	16	1.73 / 0.72
Turkey-	20	52	18	10	1.20 / 0.83
Dealing with patients' relatives					**4.34 / 1,84 / p < 0.05**
Wales-	0	24	61	15	1.91 / 0.63
Turkey-	11	37	36	16	1.57 / 0.89
Awareness of lack of knowledge / skills *					**18.19 /1,87 / p< 0.001**
Wales-	3	30	52	15	1.79 / 0.74
Turkey-	11	64	23	2	1.16 / 0.63
Caring for the emotional needs of patients *					**16.77 / 1,87 / p< 0.01**
Wales-	0	58	30	12	1.55 / 0.71
Turkey-	34	52	9	5	0.86 / 0.80
Dealing with " difficult " patient					**4.87 / 1.61 / p< 0.05**
Wales-	0	52	39	9	1.58 / 0.66
Turkey-	0	80	13	7	1.27 / 0.59
Dealing with new technology *					**15.54 /1,87/ p < 0.001**
Wales-	9	67	21	3	1.18 / 0.63
Turkey-	46	45	9	0	0.63 / 0.65

*: Country effect held up when other factors (e.g. gender, types of hospital unit) were included in the analyses.

Table 2.4.2.2. Types of stress more frequently reported by Turkish junior house officers than Welsh JHOs (as %)

ITEMS	Never	Occasionally	Frequently	Very frequently	F's / d.f.s. / P's Mean / S.D.
Lack of respect that you deserve from the general public *					**20.02/1,85/ p< 0.001**
Turkey-	11	30	30	29	1.77 / 0.99
Wales-	9	76	15	0	1.06 / 0.49
Lack of support from senior staff					**4.78 / 1,87 / p< 0.05**
Turkey-	9	45	32	14	1.52 / 0.85
Wales-	18	58	18	6	1.12 / 0.78
Not knowing what type of job performance is expected *					**12.11/1,83/p < 0.001**
Turkey-	6	49	27	18	1.66 / 1.03
Wales-	24	55	18	3	1.00 / 0.75
Criticism by a supervisor					**7.36 / 1,83 / p< 0.01**
Turkey-	14	46	34	6	1.30 / 0.78
Wales-	18	76	3	3	0.91 / 0.58
Dealing with relatives as patients *					**10.07 / 1,87/ p< 0.01**
Turkey-	21	61	14	4	1.00 / 0.71
Wales-	78	22	0	0	0.39 / 1.09
Dealing with friends as patients*					**12.14/1,87/p < 0.001**
Turkey-	32	61	7	0	0.75 / 0.58
Wales-	67	33	0	0	0.33 / 0.48

*: Country effect held up when other factors (e.g. gender, types of hospital unit) were included in the analyses.

2.4.2.2. Identification of intensity of stress sources

The results revealed fewer differences between countries for intensity of stress. Four items out of 31 (13%) were reported more stressful by the Welsh sample than Turkish sample. Four items only out of 31 (13%) were reported more stressful by the Turkish junior house officers than Welsh ones. On the other hand, 23 items out of 31 (74%) did not show any significant differences between two countries (see Table 1.2 in Appendix 1). Items which indicated significant differences between the two countries are shown in Table 2.4.2.3 and Table 2.4.2.4. However, when other factors were considered in the analyses (gender and types of hospital unit), the country effect held up for only 6 items (3 Welsh > Turkish and for 3 Turkish > Welsh).

It seems that those items which show differences in terms of intensity are not due to ' floor ' and 'ceiling' effects. For example, differences were

restricted to the high stress end of scale for Welsh sample for the following items : *'dealing with long working hours ', 'interruptions of work by other people's phone calls'*, and *' work overload'*, whereas for the same items, differences were generally present in all categories for Turkish junior house officers. On the other hand, for the item *' dealing with " difficult " patient '* differences were restricted to the middle two categorises for both Welsh and Turkish JHOs. Similarly, differences were generally present in all response categories for Turkish JHOs for the items *'lack of respect that you deserve from the general public', 'lack of career advice', ' lack of teaching'* whilst for those items, differences were restricted to the low stress end of scale for the Welsh JHOs.

Table 2.4.2.3. Items producing more intense stress in the Welsh junior house officers than Turkish JHOs (as %)

ITEMS No stress	Little stress	Moderate stress	Great stress	**F's / d.f.s / P's** Mean / SD.
Dealing with long working hours *				**10.83/1,87/p<0.01**
Wales- 0	6	36	58	2.51 / 0.62
Turkey- 5	31	42	22	1.87 / 1.01
Work overload *				**9.67 / 1,87/p <0.01**
Wales- 0	0	45	55	2.54 / 0.51
Turkey- 7	24	44	25	1.95 / 1.03
Interruptions of work by other people's phone calls *				**35.70/1,87/p<0.001**
Wales- 0	9	36	55	2.45 / 0.67
Turkey- 25	51	13	11	1.18 / 1.11
Dealing with "difficult" patient				**5.42 /1,86 / p <0.05**
Wales- 0	24	64	12	1.88 / 0.60
Turkey- 4	60	27	9	1.50 / 0.93

*: Country effect held up when other factors (e.g. gender, types of hospital unit) were included in the analyses.

Table 2.4.2.4. Items producing more intense stress in Turkish junior house officers than Welsh JHOs (as %)

ITEMS					**F's / d.f.s / P's**
	No stress	Little stress	Moderate stress	Great stress	Mean / SD.
Lack of respect that you deserve from the general public *					**23.14/ 1,87/p<0.001**
Turkey-	11	25	32	32	2.07 / 1.36
Wales-	39	42	15	3	0.82 / 0.81
Lack of teaching *					**22.82 / 1,87/p<0.001**
Turkey-	2	27	44	27	2.04 / 0.95
Wales-	21	55	18	6	1.09 / 0.80
Not knowing what type of job performance is expected *					**12.93/1,87/ p< 0.001**
Turkey-	0	49	33	18	1.77 / 0.95
Wales-	0	54	46	0	1.06 / 0.79
Lack of career advice					**4.95 / 1,87/p<0.05**
Turkey -	2	55	28	15	1.71 / 1.12
Wales-	28	50	16	6	1.15 / 1.20

*: Country effect held up when other factors (e.g. gender, types of hospital unit) were included in the analyses.

2.4.2.3. Identification of intensity when controlling frequency of stress sources

As there were differences in the frequency of different stressors it was important to see whether the differences in the intensity of stress experienced reflected this. Therefore, analyses of covariance were carried out to explore this issue.

Very few items showed significant differences between the two countries for intensity when controlling frequency. Turkish JHOs reported more stress than the Welsh for 6 items out of 31 (19%). 25 items (81%) did not indicate any significant differences between Welsh and Turkish junior house officers (see Table 1.3 in Appendix 1). The items which showed significant differences between the two countries, are presented in Table 2.4.2.5.

Table 2.4.2.5. Types of stress reported as more intense by Turkish junior house officers than Welsh JHOs (after covarying frequency)

ITEMS				
TURKEY		WALES		
Adjusted Mean	Se.	Adjusted Mean	Se.	**F's / d.f.s / P's**
Lack of respect that you deserve from the general public *				
1.89	0.14	1.13	0.19	**13.09/ 1.86 / p<0.001**
Dealing with death and dying				
1.85	0.14	1.37	0.18	**4.15 / 1,86 / p < 0.05**
Lack of career advice				
1.68	0.14	1.21	0.18	**4.22 / 1, 86 / p < 0.05**
Lack of teaching *				
1.99	0.10	1.17	0.13	**24.46/1, 86/ p< 0.001**
Problems with other JHOs				
0.96	0.13	0.47	0.17	**51.2 / 1,86 / p < 0.05**
Not knowing what type of job performance is expected				
1.64	0.10	1.27	0.14	**4.44 / 1,86 / p < 0.05**

*: Country effect held up when other factors (e.g. gender, types of hospital unit) were included in the analyses.

2.4.2.4. Summary of analyses of individual items

1. The differences between Welsh and Turkish junior house officers in terms of identification of the frequency of stress sources were clear cut. Welsh junior house officers reported more frequent stress than the Turkish junior house officers for 14 items out of 31 whilst Turkish junior house officers reported more frequent stress for only 6 items.

'Interruptions of work by other people's phone calls ', *'dealing with long working hours '*, and *' work interferes with domestic life'* were reported to cause stress very frequently by most of the Welsh junior house officers .
On the other hand, in general, Turkish junior house officers, reported that *'lack of respect that you deserve from the general public'*, *'not knowing what type of job performance is expected'* , *'criticism by a supervisor'*, *'lack of support from senior staff'* caused stress very frequently or frequently.

2. Fewer differences were found between Welsh and Turkish junior house officers with regards to the intensity of stress sources.

It seems that most of the Welsh junior house officers found that *' dealing with long working hours'*, *' interruptions of work by other people's phone calls'* and *' work overload '* caused great stress.

On the other hand, most of Turkish junior house officers reported that *' lack of respect that you deserve from the general public '*, and *' lack of teaching'*, *'not knowing what type of job performance is expected'* caused great stress.

3. Similarly, very few items showed significant differences between the two countries for intensity when controlling frequency.

Turkish junior house officers reported more stress than the Welsh for 6 items out of 31 , namely *' lack of respect that you deserve from general public '*, *'dealing with death and dying'*, *' lack of career advice'*, *' problems with other JHOs'*, *' not knowing what type of job performance is expected '*, and *'lack of teaching'*.

2.4.3. Interactions between country and contextual factors

2.4.3.1. Interactions between country and gender in the analyses of individual items

2.4.3.1.1. Frequency

Interactions between country and gender were found for the frequency scores for following questions: 'problems with senior doctors', 'dealing with long working hours', 'number of beds responsible for', 'lack of teaching', 'caring for emotional needs of patients' (see Table 2.4.3.1).

Tukey tests indicated that Welsh female junior house officers reported these items more often than Turkish female junior house officers whereas differences were smaller for males (except 'not enough time to complete all of my duties' and 'lack of teaching').

Table 2.4.3.1. Interactions between country and gender in the analyses of individual items (frequency of stress sources)

ITEMS				
WALES		TURKEY		
FEMALE	MALE	FEMALE	MALE	
Mean	Mean	Mean	Mean	F's / d.f.s / P's
Sd.	Sd.	Sd.	Sd.	
Problems with senior doctors				
2.94	1.53	1.18	1.03	**7.79 / 1, 85 / p < 0.05**
2.08	1.55	0.91	0.63	
Not enough time to complete all of my duties				
1.25	1.88	1.59	1.29	**6.12 / 1, 85 / p < 0.05**
0.77	0.86	0.96	0.80	
Dealing with long working hours				
2.69	2.18	1.59	1.82	**4.97 / 1, 85 / p < 0.05**
0.60	0.81	0.85	0.72	
Number of beds responsible for				
3.12	1.82	1.36	1.85	**8.23 / 1, 25 / p < 0.01**
2.19	0.81	0.79	0.92	
Lack of teaching				
1.94	1.53	1.64	2.15	**5.31 / 1, 58 / p < 0.05**
0.85	1.00	0.95	0.70	
Caring for the emotional needs of patients				
1.69	1.41	0.59	1.03	**4.62 / 1, 85 / p < 0.05**
0.79	0.62	0.59	0.87	

2.4.3.1.2. Intensity

An interaction between country and gender was found for only one item 'problems with nurses' ($F=5.38$, $df=1,56$, $p < 0.05$) {mean (Wales / fem.)=0.87, sd=0.96; mean (Wales / male)=1.76, sd=1.39; mean (Turkey / fem.)=1.50, sd=1.71; mean (Turkey / male)=1.06, sd=0.89 }. Tukey tests didn't show any significant differences between means of four groups, although numerically the Welsh males and Turkish females had the higher scores.

2.4.3.1.3. Intensity when controlling frequency

Interactions between country and gender were found for following questions: 'problem with senior doctors '; 'problem with nurses'; 'lack of career advice' and 'lack of support from senior staff' (see Table 2.4.3.2).

Posthoc analysis didn't show any differences between the means of four groups, although, once again, the Welsh males and Turkish females had the higher scores.

Table 2.4.3.2. Interactions between country and gender in the analyses of individual items (intensity when controlling frequency)

ITEMS				
WALES		TURKEY		
FEMALE Adjusted Mean Se.	MALE Adjusted Mean Se.	FEMALE Adjusted Mean Se.	MALE Adjusted Mean Se.	F's / d.f.s / P's
Problems with senior doctors				
0.57	1.40	1.58	1.48	**4.27 / 1, 84 / p < 0.05**
0.28	0.24	0.21	0.17	
Problems with nurses				
0.37	1.56	1.72	1.26	**17.29/1, 84/p < 0.001**
0.31	0.28	0.25	0.20	
Lack of career advice				
0.96	1.45	1.96	1.50	**4.46 / 1, 84 / p < 0.05**
0.25	0.25	0.22	0.17	
Lack of support from senior staff				
1.26	1.76	1.89	1.39	**4.89 / 1, 84 / p < 0.05**
0.25	0.25	0.21	0.17	

2.4.3.2. Interactions between country and type of hospital unit in the analyses of individual items

2.4.3.2.1. Frequency

Interactions were found between country and types of hospital unit for very few items (see Table 2.4.3.3). In general, it seems that Turkish JHOs who had been on a medicine unit, reported more stress than Welsh JHOs on a medicine unit, for following items: 'lack of an opportunity to talk openly

with other unit personnel about problems on the unit', 'lack of an opportunity to share experiences with other personnel on the unit', 'lack of support from senior staff', 'lack of teaching'. The differences between countries were smaller in the surgery units for these items.

On the other hand, for 'being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients', 'not enough time to complete all of my duties', Welsh JHOs on the surgery unit had higher stress scores than Turkish JHOs on the surgery unit.

However, when posthoc analyses were run, a significant difference was found for only one item, 'work overload' ($p < 0.05$), with Welsh junior house officers on the surgery unit reporting more stress than their Turkish colleagues on the surgery unit.

Table 2.4.3.3. Interaction between country and type of hospital units in the analyses of individual items (frequency)

ITEMS				
WALES		**TURKEY**		
SURGERY	MEDICINE	SURGERY	MEDICINE	
Mean	Mean	Mean	Mean	**F's / d.f.s / P's**
Sd.	Sd.	Sd.	Sd.	
Lack of a good physical work environment				
1.63	1.29	1.14	1.95	**8.09 / 1,81/p < 0.01**
0.81	0.85	0.77	0.90	
Work overload				
2.25	1.76	1.21	1.68	**6.66 / 1, 81 / p< 0.05**
0.68	0.56	0.89	0.87	
Lack of an opportunity to talk openly with other unit personnel about problems on the unit				
1.50	1.06	1.07	1.58	**5.14 / 1, 81 / p< 0.05**
0.97	0.75	0.92	1.00	
Not enough time to complete all of my duties				
1.81	1.35	1.14	1.55	**4.70 / 1,81 / p< 0.05**
0.91	0.79	0.66	0.92	

Table 2.4.3.3. Interaction between country and type of hospital units in the analyses of individual items (frequency) (continued)

ITEMS				
WALES		TURKEY		
SURGERY	MEDICINE	SURGERY	MEDICINE	
Mean	Mean	Mean	Mean	F's / d.f.s / P's
Sd.	Sd.	Sd.	Sd.	
Lack of support from senior staff				
1.31	0.94	1.21	1.66	**4.79 / 1,81 / p < 0.05**
0.79	0.75	0.58	0.88	
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients				
1.44	1.12	0.93	1.03	**4.22 / 1, 81/ p< 0.05**
0.81	0.33	0.62	0.64	
Lack of teaching				
2.06	1.41	1.79	2.03	**5.21 / 1,81 / p < 0.05**
0.99	0.80	0.70	0.82	

2.4.3.2.2. Intensity

Although post-hoc analysis did not show any significant differences between the four groups the Welsh junior house officers on the surgery unit had higher stress scores than their Turkish counterparts on the surgery unit for following items: 'awareness of lack of knowledge / skills', 'not having enough staff to adequately provide necessary services'.

On the other hand, Turkish junior house officers on the medicine unit reported more stress than their Welsh counterparts on the medicine unit for the following items : 'Lack of an opportunity to share experiences with other personnel on the unit', and 'lack of career advice'.

Table 2.4.3.4. Interaction between country and type of hospital units in the analyses of individual items (intensity)

ITEMS				
WALES		TURKEY		
SURGERY	MEDICINE	SURGERY	MEDICINE	
Mean	Mean	Mean	Mean	F's / d.f.s / P's
Sd.	Sd.	Sd.	Sd.	
Awareness of lack of knowledge / skills				
2.06	1.47	1.14	1.55	**6.15 /1,81 / p < 0.05**
0.85	0.62	0.53	1.03	
Not having enough staff to adequately provide necessary services				
2.63	2.06	1.86	2.37	**4.81 / 1,81/ p < 0.05**
0.62	0.66	0.77	1.36	
Lack of an opportunity to share an with other personnel on the unit				
1.06	0.53	0.72	1.42	**5.40 / 1, 81 / p < 0.05**
1.48	0.51	0.47	1.33	
Lack of career				
1.69	0.65	1.57	1.76	**5.42 / 1,81/ p < 0.05**
1.45	0.61	0.85	1.24	

2.4.3.2.3. Intensity when controlling frequency

Analyses of intensity covarying frequency revealed interactions between country and type of hospital unit for the following items : 'awareness of lack of knowledge / skills' and 'lack of career advice' (see Table 2.4.3.5). These items showed similar patterns to those found in the analyses of intensity alone. However, posthoc analyses didn't show any significant differences between individual groups.

Table 2.4.3.5. Interactions between country and type of hospital units in the analyses of individual items (intensity when controlling frequency)

ITEMS				
WALES		**TURKEY**		
SURGERY Adjusted Mean Se.	MEDICINE Adjusted Mean Se.	SURGERY Adjusted Mean Se.	MEDICINE Adjusted Mean Se.	**F's / d.f.s / P's**
Awareness of lack of knowledge / skills				
1.80	1.24	1.31	1.71	**7.56/1, 80 / p < 0.001**
0.19	0.19	0.20	0.12	
Lack of career advice				
1.68	0.76	1.58	1.71	**4.77 /1,80 / p < 0.05**
0.26	0.25	0.27	0.17	

2.4.3.3. Effects of duration on the unit

As mentioned earlier, Turkish and Welsh junior house officers had worked for a different time period on each unit. The Welsh doctors were subdivided into those who had been on the unit for < 2 months and those who had worked for longer. All the Turkish doctors had been on the unit for < 2 months. If the country effects reflected time on the unit then the Turkish doctors should be equivalent to the Welsh < 2 group but different from the Welsh > 2 group.

The results showed that there was a difference between both Wales > 2 and Wales < 2 groups and the Turkish sample but there was no differences between the Wales > 2 and Wales < 2 groups (see table 2.4.3.6., 2.4.3.7, and 2.4.3.8 for the items which showed significant results between countries. In other words, the differences between countries did not reflect time working on the unit.

Table 2.4.3.6. Effects of duration on the unit in terms of the frequency of stress scores

ITEMS WALES / LONG Mean Sd.	WALES / SHORT Mean Sd.	TURKEY Mean Sd.	F's / d.f.s / P's
Awareness of lack of knowledge / skills [4, 1]			
1.73	1.82	1.16	**9.07 /2,86 / p< 0.001**
0.65	0.79	0.63	
Problems with senior doctors [4, 2]			
1.36	2.64	1.09	**7.88 / 2,34 / p < 0.01**
1.21	2.10	0.77	
Dealing with your relatives as patients [3, 2]			
0.27	0.45	1.00	**5.16 / 2,86 / p < 0.01**
0.47	1.30	0.71	
Work overload [4]			
1.82	2.09	1.52	**5.55/2,53/ p< 0.01**
Lack of respect that you deserve from the general public [2, 3]			
0.91	1.14	1.77	**13.74/2,60 / p< 0.001**
0.54	0.47	0.99	
Dealing with death and dying [4]			
1.73	1.73	1.20	**4.24 / 2,86/p < 0.05**
0.47	0.83	0.88	
Problems with nurses [4]			
1.82	2.77	1.12	**9.19/ 2,30 / p< 0.001**
1.60	1.72	0.83	
Work interferes with domestic life [1, 4]			
2.36	2.32	1.36	**16.32 /2,86 / p<0.001**
1.03	0.57	0.80	
Dealing with new technology [1, 4]			
1.18	1.18	0.63	**7.68 / 2,86/p< 0.001**
0.75	0.59	0.65	
Criticism by a supervisor [3]			
1.00	0.86	1.30	**3.67 / 2.28 /p< 0.05**
0.77	0.47	0.78	
Interruptions of work with other people's phone calls [4, 1]			
2.36	2.86	1.09	**73.89/2,32/p<0.001**
0.67	0.35	0.84	
Dealing with your friends as patients [2, 3]			
0.27	0.36	0.75	**6.12 / 2,86 / p<0.01**
0.47	0.49	0.58	
Lack of support from senior staff [2]			
0.91	1.23	1.52	**3.67 /2,51/ p< 0.05**
0.54	0.87	0.85	
Dealing with long working hours [1, 4]			
2.36	2.45	1.73	**8.44 /2,86/ p< 0.001**
0.92	0.67	0.77	

Table 2.4.3.6. Effects of duration on the unit in terms of the frequency of stress scores (continued)

ITEMS WALES / LONG Mean Sd.	WALES / SHORT Mean Sd.	TURKEY Mean Sd.	F's / d.f.s / P's
Number of beds responsible for [4]			
2.09	2.64	1.66	**4.74 / 2,86 / p < 0.05**
1.58	1.81	0.90	
Problems with other JHOs [1,4]			
0.82	1.95	0.75	**4.85 / 2.32 / p< 0.05**
1.17	2.17	0.58	
Caring for the emotional needs of patients [1,4]			
1.55	1.55	0.86	**8.29 / 2,86/p< 0.001**
1.69	0.74	0.80	
Not knowing what type of job performance is expected [2,3]			
0.91	1.05	1.66	**5.18 / 2,86 / p < 0.01**
0.70	0.78	1.03	

[1]= Wales Long > Turkey ; [2]= Wales Long < Turkey ; [3]= Wales Short < Turkey
[4]= Wales Short > Turkey ;

Table 2.4.3.7. Effects of duration on the unit in terms of the intensity of stress score

ITEMS WALES LONG Mean Sd.	WALES SHORT Mean Sd.	TURKEY Mean Sd.	F's / d.f.s / P's
Work overload [4]			
2.55	2.55	1.95	**4.98 / 2, 86/p< 0.01**
0.52	0.51	1.03	
Lack of respect that you deserve from the general public [2,3]			
0.82	0.82	2.07	**11.44/2,86/ p < 0.001**
0.75	0.85	1.36	
Interruptions of work with other people's phone calls [1,4]			
2.18	2.59	1.18	**18.56 /2,86 /p<0.001**
0.75	0.59	1.11	
Dealing with long working hours [4]			
2.55	2.50	1.88	**5.36 /2,86 /p<0.01**
0.69	0.60	1.01	
Lack of teaching [2,3]			
1.00	1.14	2.04	**11.39 /2,86/ p<0.001**
0.89	0.77	0.95	
Not knowing what type of job performance is expected [2,3]			
0.91	1.14	1.77	**6.66 /2,86 / p< 0.01**
0.83	0.77	0.95	

[1]= Wales Long > Turkey ; [2]= Wales Long < Turkey ; [3]= Wales Short < Turkey ;
[4]= Wales Short > Turkey

Table 2.4.3.8. Effects of duration on the unit in terms of the intensity when covarying frequency of stress scores

ITEMS			
WALES LONG	**WALES SHORT**	**TURKEY**	
Adjusted	**Adjusted**	**Adjusted**	
Mean	Mean	Mean	**F's / d.f.s / P's**
Se.	Se.	Se.	
Lack of respect that you deserve from the general public			
1.24	1.08	1.89	**4.80 /2,85 / p < 0.05**
0.32	0.23	0.14	
Lack of teaching			
1.08	1.22	1.99	**12.24/2,85 /p < 0.001**
0.23	0.16	0.10	

2.4.3.4. Summary of interactions between country and modifying factors (gender , types of hospital unit , and effects of time on the unit)

1. The following items 'problems with senior doctors', 'dealing with long working hours', 'number of beds responsible for', 'lack of teaching', 'caring for emotional needs of patient' were more frequently reported as stressful by female Welsh JHOs than their female Turkish counterparts. The differences were smaller for males.

2. In general, Turkish JHOs on a medicine unit reported more frequent stress due to lack of support than their Welsh counterparts on a medicine unit. On the other hand, Welsh JHOs on a surgery unit reported more stress due to 'work load' and 'being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients', than their Turkish colleagues on a surgery unit.

Turkish JHOs on a medicine unit reported more intense stress due to lack of support, than their Welsh junior house officers on a medicine unit. On the other hand, Welsh junior house officers on the surgery unit reported more intense stress due to 'awareness of lack of knowledge / skills', and 'not

having enough staff to adequately provide necessary services' than their Turkish counterparts.

Interactions between country and type of hospital unit were significant in analyses of intensity controlling frequency for 'awareness of lack of knowledge' and 'lack of career advice'.
Overall, compared to the large main effects of country, there were relatively few interactions between country and the other factors examined.

2.5. DISCUSSION

The main aim of this study was to examine whether there were any differences in terms of identification of frequency of exposure to stressors and intensity of stress among junior house officers in two countries. Differences between countries were found for the frequency of total stress scores. The present results supported previous cross - cultural studies on stress which showed overall differences between countries { e.g. Dunham, (1980); Kirkcaldy and Cooper, (1992); Gaziel, (1993) }. However, the same answer was not obtained regarding intensity of stress and intensity when controlling frequency of exposure to stressors.

Analysis of individual items also showed that there were country differences. However, these differences were selective, with country differences depending on the type of stressor. These differences were found mainly in terms of frequency, with fewer differences between countries for intensity of stress and very few for intensity when controlling frequency. Some of stress sources which were commonly reported by Welsh JHOs in this study, supported previous results from other studies which were carried in the UK. These stress sources were : 'work overload' (Firth - Cozens, 1987; Firth - Cozens and Morrison, 1989; Firth - Cozens , 1990), 'work interferes with domestic life' (Firth - Cozens, 1987; Firth - Cozens and

Morrison, 1989), 'awareness of lack of knowledge', 'problems with senior doctors', 'dealing with death and dying', and 'problems with nurses' (Firth - Cozens and Morrison, 1989).

On the other hand, in general, the items which were reported as more stressful by Turkish junior house officers , might reflect the practice and training differences in Turkey (e.g. 'lack of career advice', 'lack of teaching', and 'not knowing what type of job performance is expected') or cultural differences between the two countries (items which were related to lack of support such as 'lack of respect that you deserve from the general public') which are discussed in more detail at the end of the chapter 3.

Analyses were also conducted to explore the question of whether any differences in reported stress reflected frequency of exposure to stress or response to it. Some items were frequent and led to intense stress. For example, Welsh JHOs reported that 'dealing with long working hours' was both frequent and produced a lot of stress. Similarly, 'lack of respect that you deserve from the general public' was reported as both the most frequent stressor and as causing great stress by the Turkish junior house officers.
Firth - Cozens and Morrison (1989) showed that frequent stressors did not necessarily produce the most intense stress. Similar effects were found in the present study. For example, the Welsh JHOs reported that work frequently interfered with domestic life, although this was not one of the most intense forms of stress. Similarly, these JHOs found that 'work overload' led to intense stress although it was not the most frequent kind of stress. The Turkish data also showed differences between frequency and intensity of stress with the following being viewed as frequent stressors: 'lack of support from senior staff', 'not knowing what type of job performance is expected' and 'criticism by a supervisor'. In contrast, the following items were rated as producing the most intense stress: 'lack of teaching', 'not

knowing what type of job performance is expected' and 'lack of career advice'.

The above results show that differences between the countries depend not only on the type of stressor being considered but also on whether one is investigating exposure to stress or the impact of it. Further analyses also showed that contextual factors, such as gender, or type of hospital unit, can also modify the differences between countries.

As mentioned in the introduction section, most of previous studies which examined effects of gender and types of hospital unit on occupational stress among health professionals, have been carried out in a single country , This makes it difficult to interpret the present results by referring to previous findings. However, two main things emerged from the results. First, there were relatively few interactions between country and other factors. Secondly, the differences were bigger for females subjects than males. It seems that the difference between countries for frequency of stress was largely due to Welsh female subjects whereas the differences between countries found for intensity covarying frequency was largely due to Turkish female subjects. The explanation of these results might be the differences of training and practice in two countries or different role of women in the two societies, or some bias in return of the questionnaires.

In the current study, the difference between countries for the total frequency of stress scores was bigger in the surgery units. In contrast, the results from the individual item analyses showed effects for both types of unit depending on the stress sources. In general, the Turkish junior house officers on the medicine unit complained about lack of support and resources whilst Welsh junior house officers on the surgery unit reported greater work overload, and insecurity about knowledge, competence etc. Once again, differences is working practices in the two countries might have been responsible for these interactions between country and types of hospital units. Finally,

duration on the unit was not responsible for any of the differences between the two countries.

Following this preliminary study it was decided to replicate it with the following differences. First, English junior house officers were studied instead of the Welsh. In the present study we did not record how many months the junior house officers had been working when they filled in the questionnaires. It is possible that length of time as a junior house officer was responsible for some of the differences obtained. Therefore, in the next study, the length of time the person had been a JHO was recorded. These modifications were aimed at eliminating possible confounding factors and determining whether the results obtained here generalise to other JHOs. Interpretation of the differences between countries is left until the reliability of the present results has been established.

CHAPTER 3: An experimental investigation of stress in junior house officers in Turkey and England

3.1. INTRODUCTION

This chapter reports the second experimental study of the thesis. The major finding from the first study was that Welsh JHOs reported more frequent exposure to stress than the Turkish JHOs. Intensity of stress showed fewer differences between the countries. Differences between countries depended on the type of stress, with some sources being more frequent in Wales, others showing no differences between the two countries and some being more prevalent in Turkey. Gender was important, with the Welsh female JHOs reporting the most frequent stress. A modifying effect of type of hospital unit was found mostly in terms of frequency of exposure to stress.

The first issue to be examined in this study was, therefore, whether the results obtained in the previous study could be replicated in another sample. Hence, the second study was carried out among English JHOs instead of Welsh JHOs. Secondly, it tried to eliminate confounding factors which might influence differences between the two countries. Thus, length of time working as a JHO was also controlled. Finally, the general level of perceived stress was measured to see whether stress at work was related to global ratings of stress and whether any significant differences between the two countries reflected work related problems or their life outside work.

On the basis of the results of the first study it was possible to make a number of predictions:

1. JHOs in England would report more frequent stress than JHOs in Turkey.
2. These differences would be greater in female JHOs than males.
3. The effects would be selective and depend on the type of stress.

4. Effects would be smaller for intensity of stress.

5. A modifying effect of type of hospital unit would emerge in terms of frequency of exposure to stress.

6. Contextual factors, such as duration on the unit, would not modify the differences between Turkey and the UK.

7. There would be differences between identification of frequency and intensity of job related stress sources.

In addition, the hypothesis that time working as a JHO was an important factor was examined here.

3.2. METHOD

3.2.1. Design

A cross-sectional design was used involving a comparison of English and Turkish JHOs. The subjects were given the same occupational stress questionnaire as in the previous study. The perceived stress scale (Cohen et al., 1983) was also administered. Demographic information and employment history were also recorded.

3.2.2. Subjects

The same procedure used to distribute the questionnaire in the first study was employed here. As in the first study, more than 100 questionnaires were distributed to subjects in both countries. Sixty one completed questionnaires were returned by English junior house officers whereas 64 questionnaires were sent back by Turkish junior house officers. Fifteen of the questionnaires which were filled in by Turkish subjects were not used because the units which they were working on when they completed the questionnaire were not comparable with those in England.

Sixty one English junior house officers who were working in different hospitals in the South - West, and 49 junior house officers from the

University hospital in Turkey took part in the second study. The demographic data and history as a JHO is shown in Table 3.2.1.

Table 3.2.1. Demographic data {N (England)=61, N(Turkey)=49}

Variable		ENGLAND		TURKEY	
		N	%	N	%
Gender	Female	35	57	20	41
	Male	26	43	29	59
Age	22-24 years old	36	59	36	73
	25-31 years old	25	41	13	27
	Mean	24.71		23.71	
	sd.	1.74		1.40	
	range(min-max.)	22-27		23-31	
Marital Status	Single	56	92	46	94
	Married	5	8	3	6
	Others	-	-	-	-
Types of hospital units	Medicine	30	49	32	65
	Surgery	25	41	9	19
	Unused data	6	10	8	16
Duration on the unit	2 months or less	13	21	49	100
	More than 2 months	48	79	-	-
Duration working as JHOs	3 months	13	21	9	18
	6 months	46	76	26	53
	Unused data	2	3	14	29

3.2.3. Measurements

The questionnaire distributed to JHOs in the first study was also given to JHOs in the second study (see Appendix A). One more question, "how long have you been working as a junior house officer" was added to the questionnaire in the second study.

As well as this questionnaire, the perceived stress scale (PSS) was also distributed to subjects in this second study. The Perceived Stress Scale was designed to measure the degree to which events in one's life are perceived as stressful (Cohen, S., Kamarck, T. and Mermelstein, R.; 1983). In this questionnaire, the respondents were asked to indicate their feelings and

thoughts during the last month. They were asked to rate the impact of events that had occurred on a scale ranging from never (0) to very often (4) . The psychometrics are adequate and reported in the original paper. The 14 items of perceived stress scale are presented in Appendix D. The perceived stress scale was translated from English to Turkish and back translated by three Turkish university students who were doing PhDs in the University of Bristol.

3.3. RESULTS

The statistical procedures used in the first study were also employed in this study . A Levene's test of equality of variance was considered. If this was not significant the statistics from the analyses of variance were examined. However, if the variances were not equal, statistics from the Brown - Forsythe test were considered. Some analyses reported here have different degrees of freedom because the Brown - Forsythe test compares means without assuming equality of variance at the cost of losing degrees of freedom.

3.3.1. Overall stress scores (Frequency, intensity and intensity covarying frequency)

3.3.1.1. Effect of country

The results showed that the main effect of country was not significant for either the total frequency scores (F=0.32, df= 1,87) or the total intensity scores (F=0.61, df= 1,91). Similarly, there was no main effect of country in terms of the total intensity scores with frequency of total stress covaried (F=0.10, df=1,77). The result obtained in the first study, showing greater frequency of stress in the UK was not, therefore, replicated.

3.3.1.2. Effect of Gender

A main effect of gender was found for the total intensity score ($F=4.12$, $df=1,89$, $p< 0.05$), with females reporting more intense stress. However, the country x gender interaction was not significant in the analysis of the total intensity stress score. No main effect of gender or country x gender interaction were found for either the total frequency scores or the total intensity scores when covarying the total frequency stress score.

The gender x country effect found in the previous study was not, therefore, replicated here.

3.3.1.3. Effect of type of hospital unit

Main effects of type of hospital unit and interaction between country x type of hospital unit were not found for either the total frequency or intensity of stress score. Similarly, a country x type of hospital unit interaction was not found for the total intensity score when covarying the total frequency stress score. However, there was a main effect of type of hospital unit in terms of total intensity stress score when covarying the total frequency of stress score ($F=5.09$, $df=1,64$, $p < 0.05$) , with higher scores being associated with the surgery unit.

3.3.1.4. Effects of duration on the unit

Main effects of duration on the unit were not found for either total frequency ($F=0.27$, $df=2,86$) or intensity ($F=0.33$, $df= 2,90$) stress scores. Similarly, main effects of duration on the unit were not found with regard to total intensity when covarying frequency of stress scores ($F=0.05$, $df=2,76$).

3.3.1.5. Effects of time working as a junior house officer

The results showed that there was a main effect of time working as a JHO ($F=12.43$, $df=1,71$, $p < 0.001$) and also an interaction between country and duration (working as JHOs) ($F=9.00$, $df=1,71$, $p < 0.01$) in the analysis of the total frequency stress scores . A Tukey analysis indicated that English (mean= 41.26, sd=11.34) and Turkish (mean=47.52, sd=8.34) JHOs who had been working six months as JHOs when they filled in the questionnaire had higher stress scores than Turkish junior house officers who had been working three months as JHOs when they filled in the questionnaire (mean=29.63, sd= 12.02) (see Figure 3.3.1.1). In contrast, English junior house officers who had been working three months as JHOs (mean=39.82, sd=9.34) did not show any significant difference from the other three groups. Hence, the results of the previous study have been replicated but only when comparing English JHOs who had been working for 6 months with Turkish JHOs who had been working for a shorter period. When the Turkish JHOs had been working for 6 months they also reported an increased frequency of stress.

Similarly, a main effect of time working as a JHO ($F=12.14$, $df=1,73$, $p < 0.01$) and an interaction between country and time as a JHO ($F=11.38$, $df=1,73$, $p < 0.01$) were found in the analysis of the total intensity stress scores. A Tukey test demonstrated that Turkish JHOs who had been working six months as JHOs (mean=51.46, sd=11.04) reported more intense stress than their Turkish colleagues who had been working three months (mean=29.67, sd=10.85) and their English counterparts who had been working six months as JHOs (mean=40.91, sd=12.41; both at $p < 0.01$ levels ; see Figure 3.3.1.2). Once again, English JHOs who had been working three months (mean=40.56, sd=12.38) did not show any significant differences from the other three groups for total intensity scores.

Neither the main effect of time working as a JHO (F=2.66, df=1,61) nor the interaction between country x duration (F=3.55, df=1,61) was significant in the analysis of the total intensity scores with frequency of stress covaried.

FIGURE 3.3.1.1. INTERACTION BETWEEN COUNTRY AND TIME WORKING AS JHO , FOR THE MEAN TOTAL FREQUENCY OF STRESS SCORE
(S.d.s shown as bars)

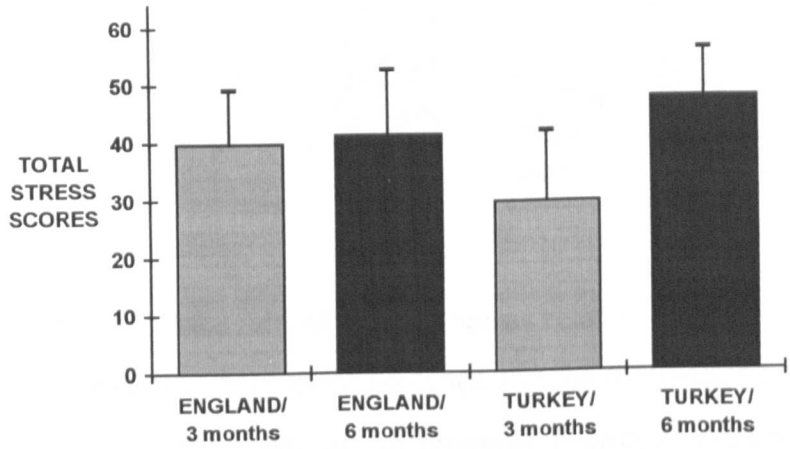
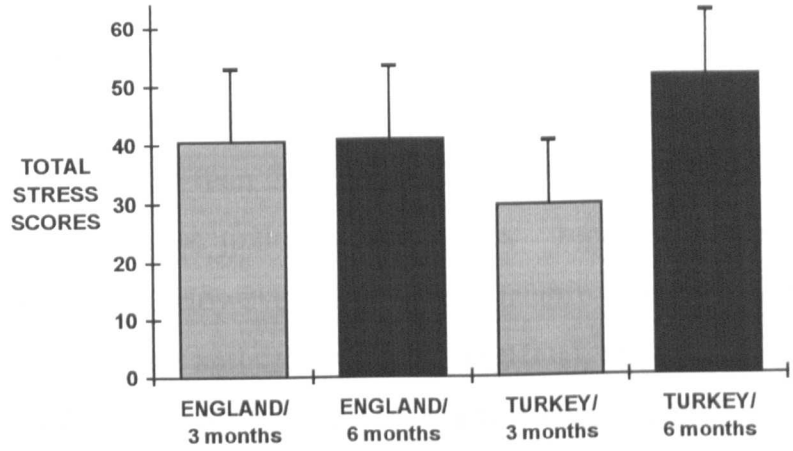


FIGURE 3.3.1.2. INTERACTION BETWEEN COUNTRY AND TIME WORKING AS JHO , FOR THE MEAN TOTAL INTENSITY OF STRESS SCORE
(S.d.s shown as bars)



3.4.1.5. The summary of overall stress scores

The main points from these analyses may be summarised as follows:

1. There were no overall differences between countries with regard to frequency, intensity or intensity when frequency was covaried.

2. There were no interactions between country x gender nor country x type of hospital unit for frequency, intensity , or intensity when controlling total frequency stress scores.

3. There were no effects of duration on the unit for either frequency, intensity or intensity when controlling frequency.

4. Turkish junior house officers who had been working three months reported fewer stressors than their Turkish and English counterparts who had been working six months as JHOs. Turkish JHOs who had been working six months as JHOs reported more intense stress than their Turkish colleagues who had been working three months and English counterparts who had been working six months.

3.3.2. Specific types of stress - Differences in frequency and intensity of individual items

3.3.2.1. Identification of frequency of stress sources : Differences between countries

The results indicated that Turkish JHOs had significantly greater frequency of stress scores than their English counterparts for 12 items out of 31 (39 %) whereas English junior house officers reported greater frequency for 8 items (26 %). However, when other factors were considered (gender, types of hospital unit and time working as JHOs), the country effect held up for 8 items for the Turkish sample and only 5 items for the English sample. Eleven items out of 31 (35 %) did not show any significant differences between the two countries (see Table 2.1 in Appendix 2). The items which showed significant differences between England and Turkey are shown in Table 3.3.2.1 and Table 3.3.2.2.

Like the first study, it seems that the items more frequently reported in Turkey were not just very frequent items. Turkish junior house officers reported that some items caused occasional stress whereas these items were found never to cause stress in English JHOs. For example, for the following items : *'lack of a good physical work environment'*, *'lack of respect that you deserve from the general public'*, *'lack of opportunity to share experiences with other personnel on the unit'*, *'criticism by a supervisor '*, and *' lack of support from senior staff '*, differences were restricted to mid - range frequency categories for the Turkish junior house officers whereas, for the same items, differences were restricted to less frequent end of scale for the English JHOs. Similarly, items more frequent in England were not just very frequent items; for example, for the item *' caring for the emotional needs of patients'*, differences were restricted to middle two categories for the

English junior house officers whereas for the same item differences were restricted to less frequent end of scale for the Turkish junior house officers.

Table 3.3.2.1. Types of stress more frequently reported by English junior house officers than Turkish junior house officers (as %)

ITEMS					**F's/ d.f.s. / P's**
	Never	Occasionally	Frequently	Very Frequently	**Mean / sd.**
Interruptions of work by other people's phone calls *					**55.36/1,81/p<0.001**
England-	0	6	42	52	2.45 / 0.62
Turkey-	18	45	25	12	1.31 / 0.92
Dealing with long working hours					**5.47 /1,88 /p<0.05**
England-	0	16	41	43	2.62 / 0.73
Turkey-	6	33	29	32	1.88 / 0.95
Work interferes with domestic life					**8.74/1,107 / p< 0.01**
England-	2	35	35	28	1.90 / 0.84
Turkey-	6	59	21	14	1.43 / 0.82
Dealing with death and dying *					**13.92/1,108/p<0.001**
England-	3	35	41	21	1.80 / 0.81
Turkey-	29	39	20	12	1.16 / 0.99
Dealing with patients relatives					**6.70 / 1,108/p<0.05**
England-	2	39	43	16	1.74 / 0.75
Turkey-	12	51	27	10	1.35 / 1.00
Awareness of lack of knowledge / skills *					**21.07/1,100/p<0.001**
England-	2	38	59	2	1.61 / 0.56
Turkey-	10	72	16	2	1.10 / 0.59
Caring for the emotional needs of patients *					**11.34/1,106/p<0.01**
England-	8	51	34	7	1.39 / 0.74
Turkey-	29	59	6	6	0.90 / 0.77
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients *					**9.79/1,105/p<0.01**
England-	7	56	35	2	1.32 / 0.63
Turkey-	19	67	14	0	0.96 / 0.58

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

Table 3.3.2.2. Types of stress more frequently reported by Turkish junior house officers than English junior house officers (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's/ d.f.s. / P's Mean / sd.
Lack of time for social life					**7.19/1,108/p<0.01**
Turkey-	0	18	35	47	2.29 / 0.76
England-	5	28	43	24	1.87 / 0.85
Lack of teaching					**9.01/1, 105 / p< 0.01**
Turkey-	2	25	42	31	2.02 / 0.81
England-	12	37	37	14	1.53 / 0.88
Number of beds responsible for *					**16.57/1,108/p< 0.001**
Turkey-	14	27	35	24	1.69 / 1.00
England-	39	36	17	8	0.93 / 0.95
Criticism by a supervisor *					**24.70/ 1,88 / p<0.001**
Turkey-	8	56	23	14	1.43 / 0.84
England-	38	55	5	1	0.71 / 0.64
Lack of respect that you deserve from the general public *					**43.99/1,91/p<0.001**
Turkey-	4	43	31	22	1.71 / 0.87
England-	42	48	8	2	0.70 / 0.70
Lack of support from senior staff					**16.55/1,108/p< 0.001**
Turkey-	8	45	35	12	1.51 / 0.82
England-	30	54	13	3	0.90 / 0.75
Lack of a good physical work environment					**11.82 /1,98/p< 0.001**
Turkey-	10	35	45	10	1.55 / 0.82
England-	22	57	18	3	1.03 / 0.74
Lack of an opportunity to talk openly with other unit personnel about problems on the unit *					**8.34 /1,108 /p<0.01**
Turkey-	21	47	22	10	1.22/0.90
England-	44	40	13	3	0.75/0.81
Lack of an opportunity to share experiences with other personnel on the unit					**19.41/ 1,107/p<0.001**
Turkey-	16	53	23	8	1.22 / 0.82
England-	52	40	7	1	0.58 / 0.70
Problems with other JHOs *					**23.80/1,106/p<0.001**
Turkey-	23	57	12	8	1.06 / 0.83
England-	63	34	31	0	0.41 / 0.56
Dealing with your relatives as patients *					**22.90/1,107/p<0.001**
Turkey-	27	57	12	4	0.94 / 0.75
England-	78	15	5	2	0.30 / 0.65
Dealing with your friends as patients *					**32.48 / 1,67/p<0.001**
Turkey-	31	57	8	4	0.85 / 0.74
England-	82	18	0	0	0.18 / 0.39

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

3.3.2.2. Identification of intensity of stress sources

Twelve items out of 31 (39%) were reported as more stressful by Turkish junior house officers than English ones (see Table 3.3.2.3). Nine items out of 31 (29%) were reported as more stressful by the English junior house officers than the Turkish sample (see Table 3.3.2.4). However, when other factors were considered (gender, types of hospital unit, and time working as

JHOs), the country effect held up for 7 items for the Turkish sample and 3 items for the English sample. Ten items out of 31 (32%) showed no significant differences between the two countries (see Table 2.2 in Appendix 2).

Once again, it seems that items which caused great stress in Turkey were not just restricted to the high stress end of scale. Some of the items were restricted to middle two categories for the Turkish JHOs but were restricted to the low stress end of the scale in England e.g. '*problems with other JHOs*'. A similar pattern was found for those items which were reported as more stressful by the English JHOs.

Table 3.3.2.3. Types of stress perceived as more intense by Turkish junior house officers than English JHOs (as %)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's/ d.f.s./ P's Mean / sd.
Number of beds responsible for					**8.47 / 1,108 /p<0.01**
Turkey-	12	24	27	37	1.88 / 1.05
England-	20	39	30	11	1.33 / 0.93
Criticism by a supervisor					**5.63 / 1,104 / p<0.05**
Turkey-	6	39	26	29	1.78 / 0.94
England-	26	32	26	16	1.32 / 1.04
Lack of a good physical work environment *					**12.09/1,95/ p< 0.001**
Turkey-	12	31	33	24	1.69 / 0.98
England-	25	51	17	7	1.07 / 0.84
Lack of teaching *					**22.39/1,87/ p< 0.001**
Turkey-	10	31	37	22	1.71 / 0.94
England-	26	53	21	0	0.95 / 0.69
Lack of respect that you deserve from the general public *					**45.67/1,83/ p< 0.001**
Turkey-	14	35	37	14	1.51 / 0.92
England-	60	33	7	0	0.47 / 0.63
Lack of career advice					**10.93 / 1,96 / p< 0.01**
Turkey-	12	39	35	14	1.51 / 0.89
England-	29	50	18	3	0.96 / 0.79
Problems with senior doctors					**4.09 / 1,100/ p < 0.05**
Turkey-	14	43	29	14	1.43 / 0.91
England-	27	48	16	9	1.07 / 0.89
Lack of an opportunity to talk openly with other unit personnel about problems on the unit *					**12.28/1,104/ p<0.001**
Turkey-	19	53	20	8	1.18 / 0.83
England-	40	51	9	0	0.68 / 0.63
Dealing with your relatives as patients *					**13.96/ 1,97/p < 0.001**
Turkey-	31	49	14	6	0.96 / 0.84
England-	74	14	12	0	0.38 / 0.70
Lack of an opportunity to share experiences with other personnel on the unit					**5.84 /1,104 /p< 0.05**
Turkey-	27	59	8	6	0.94 / 0.78
England-	56	32	10	2	0.58 / 0.76
Dealing with your friends as patients *					**11.90 /1,98 /p< 0.001**
Turkey-	31	49	16	4	0.94 / 0.80
England-	70	20	8	2	0.41 / 0.73
Problems with other JHOs *					**17.17/1,102/p <0.001**
Turkey-	21	59	18	2	1.02 / 0.69
England-	67	25	4	4	0.43 / 0.73

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

Table 3.3.2.4. Types of stress perceived as more intense by English junior house officers than Turkish JHOs (as %)

ITEMS	No stress	Little stress	Moderate Stress	Great Stress	F's/ d.f.s. / P's Mean / Sd.
Dealing with long working hours					**5.60 / 1,105/p<0.05**
England-	0	12	38	50	2.38 / 0.70
Turkey-	6	26	29	39	2.00 / 0.96
Work overload					**4.18 / 1,83 / p<0.05**
England-	0	16	43	41	2.26 / 0.72
Turkey-	10	29	22	39	1.90 / 1.05
Interruptions of work by other people's phone calls *					**26.43/1,104/p<0.001**
England-	2	24	37	37	2.09 / 0.83
Turkey-	33	37	14	16	1.14 / 1.06
Fear of making mistakes about treatment					**4.43/ 1,105/ p<0.05**
England-	2	33	43	22	1.86 / 0.78
Turkey-	8	45	33	14	1.53 / 0.84
Not enough time to complete all of my duties					**9.90 / 1,92 /p<0.01**
England-	3	25	53	19	1.88 / 0.76
Turkey-	20	37	31	12	1.35 / 0.95
Dealing with " difficult " patients *					**22.88 / 1,88/p<0.001**
England-	0	21	69	10	1.90 / 0.55
Turkey-	12	51	33	4	1.29 / 0.74
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients					**5.52 /1,105 /p<0.05**
England-	7	47	41	5	1.45 / 0.71
Turkey-	18	53	27	2	1.12 / 0.73
Dealing with patient relatives					**4.14 /1,104/p<0.05**
England-	4	47	45	4	1.49 / 0.63
Turkey-	24	39	31	6	1.18 / 0.88
Caring for the emotional needs of patients *					**7.29 / 1,105/p<0.01**
England-	10	55	35	0	1.24 / 0.81
Turkey-	27	59	12	12	0.90 / 0.68

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

3.3.2.3. Identification of intensity when controlling frequency of stress sources

Only 8 items showed differences between the two countries for intensity when covarying frequency of stress sources. English junior house officers had a higher stress score than the Turkish for only 3 items out of 31 (10%) whereas Turkish junior house officers reported more stress than the English for 5 items out of 31 (16 %). However, when other factors were considered (gender, types of hospital unit and time working as JHOs), the country effect held up for 2 items for the Turkish sample and 1 item only for English sample. Twenty three items (74%) did not indicate any significant differences between English and Turkish junior house officers (see Table 2.3

in Appendix 2). The items which showed significant differences between the two countries, are presented in Table 3.3.2.5 and Table 3.3.2.6.

Table 3.3.2.5. Items producing more intense stress in the English JHOs than the Turkish JHOs (frequency covaried)

ITEMS	ENGLAND		TURKEY		F's/ d.f.s./ P's
	Adjusted Mean	SE.	Adjusted Mean	SE.	
Dealing with difficult patients *	1.89	0.08	1.30	0.09	**25.10/1,104/ p< 0.001**
Lack of time for social life	2.03	0.07	1.78	0.08	**5.05 /1,104 / p <0.05**
Not enough time to complete all of my duties	1.79	0.09	1.44	0.09	**7.53 /1,102 / p< 0.01**

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

Table 3.3.2.6. Items producing more intense stress in the Turkish JHOs than the English (frequency covaried)

ITEMS	TURKEY		ENGLAND		F's/ d.f.s./ P's
	Adjusted Mean	SE.	Adjusted Mean	SE.	
Lack of an opportunity to talk openly other unit personnel about problems on the unit	1.08	0.09	0.78	0.08	**5.58/1,103/p< 0.05**
Lack of respect that you deserve from general public *	1.26	0.11	0.69	0.10	**13.03/1,103/p<0.01**
Dealing with new technology	0.89	0.09	0.51	0.08	**8.78 /1,103 /p<0.01**
Lack of career advice	1.47	0.10	0.99	0.09	**11.77/1,101/p<0.001**
Lack of teaching *	1.60	0.11	1.09	0.10	**11.37 /1,100/p<0.01**

*: Country effect held up when other factors (e.g. gender, types of hospital unit, duration working as JHOs) were included in the analyses.

3.3.2.4. Summary of analyses of individual items

1. The differences between English and Turkish JHOs in terms of identification of frequency were not clear cut.

'Interruptions of work by other people's phone calls', *'dealing with long working hours'*, and *' work interferes with domestic life'* were commonly

reported by English junior house officers whereas Turkish JHOs reported more frequent stress for the following items : *' lack of time for social life ', 'lack of teaching', 'number of beds responsible for'*, and *'lack of respect that you deserve from the general public'*.

2. When considering intensity of stress sources, *' dealing with long working hours', ' work overload', 'interruptions of work by other people's phone calls'*, and *'fear of making mistakes about treatment'* were identified as causing greater stress by English JHOs. On the other hand, Turkish JHOs reported that the following items caused great stress: *' number of beds responsible for', 'criticism by supervisor', 'lack of a good physical work environment'*, and *'lack of teaching'*.

3. Fewer differences were found between English and Turkish JHOs in terms of intensity when controlling frequency of stress scores.
' Dealing with 'difficult' patients', 'not enough time to complete all of my duties', and *'lack of time for social life'* caused great stress in English JHOs. On the other hand, in comparison to English JHOs , Turkish JHOs had higher stress scores for the following items: *' lack of career advice ', ' lack of respect that you deserve from general public ', ' lack of teaching', 'dealing with new technology', 'lack of an opportunity to talk with other unit personnel about problems on the unit'*.

In general, the analyses of individual items showed some similarities and differences from the first study. Unlike the first study, differences between England and Turkey for the frequency of stress sources were not clear cut. However, as in the first study, items which showed a differences between England and Turkey with regard to frequency and intensity were not restricted to items with high or low ratings only.

3.3.3. Interactions between country and modifying factors

3.3.3.1. Interaction between country and gender in the analyses of individual items

3.3.3.1.1. Frequency

The results indicated that there were no interactions between country and gender for frequency of stress sources for any of the items.

3.3.3.1.2. Intensity

Interactions between country and gender were found for intensity of stress for: 'work overload', and 'dealing with your friends as patients' (see Table 3.3.3.1).

A Tukey test indicated that Turkish male JHOs showed less stress for 'work overload' than Turkish female junior house officers ($p < 0.01$) , English female ($p < 0.01$) and English male ($p < 0.05$) JHOs. A Tukey test showed that Turkish male JHOs had higher stress scores for 'dealing with your friends as patients', than English female ($p < 0.05$) and male JHOs ($p < 0.01$).

Table 3.3.3.1. Interactions between country and gender in the analyses of individual items (intensity)

ITEMS				
ENGLAND		**TURKEY**		
Female	**Male**	**Female**	**Male**	
Mean	Mean	Mean	Mean	**F's / d.f.s. / P's**
Sd.	Sd.	Sd.	Sd.	
Work overload				
2.32	2.17	2.40	1.55	**4.35/1,103/p<0.05**
0.73	0.70	0.94	0.99	
Dealing with your friends as patients				
0.52	0.25	0.70	1.10	**4.75 /1,96 /p<0.05**
0.77	0.64	0.73	0.82	

3.3.3.1.3. Intensity when controlling frequency

The results showed that there were interactions between country and gender in the analysis of intensity controlling frequency for two items, 'work overload' and 'dealing with death and dying'. Although post-hoc analysis did not show any significant differences between the four groups, the mean

scores indicate that Turkish male JHOs showed less stress for the items mentioned above.

Table 3.3.3.2. Interactions between country and gender in the analyses of individual items (intensity when controlling frequency)

ITEMS				
ENGLAND		TURKEY		
Female Adjusted Mean Se.	**Male** Adjusted Mean Se.	**Female** Adjusted Mean Se.	**Male** Adjusted Mean Se.	**F's / d.f.s. / P's**
Work overload				
2.26	2.16	2.44	1.61	**6.59/1,102/p<0.05**
0.12	0.15	0.16	0.13	
Dealing with death and dying				
1.55	1.40	2.08	1.27	**4.14/1,100/ p<0.05**
0.15	0.17	0.19	0.16	

3.3.3.2. An interaction between country and type of hospital unit in the analyses of individual items

3.3.3.2.1. Frequency

Analyses of the frequency of stress showed interactions between country and types of hospital unit for 'dealing with "difficult" patients', 'dealing with patients' relatives', 'problems with senior doctors', and 'fear of making mistakes about treatment' (see Table 3.3.3.3). Tukey tests indicated that English JHOs on the medicine unit reported more stress than Turkish JHOs on the medicine unit for 'dealing with patients' relatives' ($p < 0.05$). For 'problems with senior doctors', the Tukey test did not show any significant difference between the four groups.

On the other hand, Turkish JHOs on the surgery unit had higher stress scores for 'dealing with 'difficult ' patients', and 'fear of making mistakes about treatment' than their Turkish counterparts on the medicine unit and English JHOs on the surgery unit.

Table 3.3.3.3. Interactions between country and type of hospital unit in the analyses of individual items (frequency)

ITEMS				
ENGLAND		TURKEY		
Surgery	Medicine	Surgery	Medicine	
Mean	Mean	Mean	Mean	F's / d.f.s. / P's
Sd.	Sd.	Sd.	Sd.	
Dealing with " difficult " patients				
1.16	1.30	1.67	1.03	**7.00 /1.20 /p< 0.05**
0.37	1.60	0.71	0.65	
Dealing with patients' relatives				
1.52	1.87	1.89	1.38	**6.85/ 1,92 /p<0.05**
0.65	0.78	0.78	0.66	
Problems with senior doctors				
1.24	0.77	1.00	1.26	**4.33 /1,91/ p<0.05**
0.78	0.63	1.00	0.77	
Fear of making mistakes about treatment				
1.32	1.63	1.78	1.22	**6.18/1,22 / p< 0.05**
0.63	0.77	0.83	0.66	

3.3.3.2.2 . Intensity

Interactions between country and types of hospital unit were found for intensity for only two items : 'dealing with 'difficult' patients', and 'not having enough staff to adequately provide necessary services' (see Table 3.3.3.4). Tukey tests showed that English JHOs on the surgery and medicine units had higher stress scores than Turkish JHOs on the medicine unit for: 'dealing with ' difficult ' patients' (both p 's < 0.01).

Table 3.3.3.4. Interaction between country and type of hospital unit in the analyses of individual items (intensity)

ITEMS				
ENGLAND		TURKEY		
Surgery	Medicine	Surgery	Medicine	
Mean	Mean	Mean	Mean	F's / d.f.s. / P's
Sd.	Sd.	Sd.	Sd.	
Dealing with "difficult " patients				
1.79	1.93	1.67	1.16	**4.71 / 1,89/ p<0.05**
0.51	0.60	0.50	0.77	
Not having enough staff to adequately provide necessary services				
1.83	2.36	2.33	2.03	**5.66 /1,88 / p<0.05**
0.65	0.68	0.50	0.90	

3.3.3.2.3. Intensity when controlling frequency

Interactions between country and type of hospital unit were found for intensity controlling frequency for the following items: 'work interferes with domestic life', and 'problems with other JHOs' (see Table 3.3.3.5). Although post - hoc analyses did not show any significant differences between the four groups, it can be seen that English junior house officers on the medicine unit showed less stress for the items mentioned above.

Table 3.3.3.5. Interaction between country and types of hospital unit in the analyses of individual items (intensity when controlling frequency)

ITEMS				
ENGLAND		TURKEY		
Surgery Adjusted Mean Se.	Medicine Adjusted Mean Se.	Surgery Adjusted Mean Se.	Medicine Adjusted Mean Se.	F's / d.f.s. / P's
Work interferes with domestic life				
2.11	1.56	1.58	1.84	**4.43 / 1,86 /p<0.05**
0.17	0.16	0.26	0.14	
Problems with other JHOs				
0.87	0.50	0.71	0.90	**4.00 / 1,83 /p<0.05**
0.13	0.12	0.21	0.11	

3.3.3.3. Effects of time working as JHOs

3.3.3.3.1. Frequency

In the analyses of the frequency scores, interactions between country and time working as JHOs were found for the following items: 'dealing with death and dying', 'problem with nurses', 'not enough time to complete all of my duties', 'dealing with your friends as patients', 'lack of support from senior staff', and 'number of beds responsible for you' (see Table 3.3.3.6).

Tukey tests demonstrated that English JHOs who had been working as JHOs for 3 months or 6 months and Turkish JHOs who had been working for 6 months showed more stress for two items, 'dealing with death and dying' and 'problem with nurses' than Turkish JHOs who had been working as

JHOs for 3 months only (all p 's < 0.01). Tukey tests also indicated that Turkish JHOs who had been working as JHOs for 6 months reported more stress for the following items , 'dealing with your friends as patients', and 'number of beds responsible for', than English JHOs who had been working for 3 or 6 months (all p's < 0.01).

Table 3.3.3.6. Interactions between country and time working as JHOs in the analyses of individual items (frequency)

ITEMS				
ENGLAND		TURKEY		
Short	Long	Short	Long	
Mean	Mean	Mean	Mean	F's / d.f.s. / P's
Sd.	Sd.	Sd.	Sd.	
Dealing with death and dying				
1.69	1.85	0.33	1.50	**5.86 /1,90 /p<0.05**
0.75	0.84	0.71	0.91	
Problems with nurses				
1.15	1.18	0.33	1.50	**14.26/1,89/p<0.001**
0.56	0.49	0.50	0.81	
Not enough time to complete all of my duties				
1.39	1.56	0.56	1.69	**5.76 /1,89 /p<0.05**
0.65	0.84	0.53	0.88	
Dealing with your friends as patients				
0.31	0.13	0.38	0.85	**7.42/1, 89 / p < 0.01**
0.48	0.34	0.52	0.61	
Lack of support from senior staff				
1.08	0.83	1.00	1.62	**5.26/ 1,90 / p < 0.05**
0.64	0.77	0.87	0.75	
Number of beds responsible for you				
0.77	0.96	0.78	2.04	**5.31 / 1,90 / p< 0.05**
0.83	0.99	0.97	0.87	

3.3.3.3.2. Intensity

Fewer items showed interactions between country and time working as JHOs in the analyses of the intensity scores. Tukey tests indicated that 'work overload', 'problem with nurses', 'fear of making mistakes about treatment', and 'not enough time to complete all of my duties' were found more stressful by English JHOs who had been working as JHOs for both 3 and 6 months and Turkish JHOs who had been working as JHOs for 6 months than Turkish JHOs who had been working for 3 months (all p 's < 0.01).

The items 'lack of respect that you deserve from the general public', and 'lack of teaching' were identified as more stressful by Turkish JHOs who had been working as JHOs for 6 months than other groups (p's < 0.01).

Table 3.3.3.7. Interactions between country and time working as JHOs in the analyses of individual items (intensity)

ITEMS				
	ENGLAND		TURKEY	
	Short	Long	Short	Long
	Mean	Mean	Mean	Mean
	Sd.	Sd.	Sd.	Sd.
Work overload				**F's / d.f.s. / P's**
	2.18	2.27	1.11	2.46
	0.75	0.72	0.78	0.76
11.10 / 1, 87/p<0.01				
Lack of respect that you deserve from the general public				
	0.64	0.40	1.00	1.96
	0.81	0.54	0.50	0.77
14.02/1,30/p<0.001				
Dealing with death and dying				
	1.70	1.52	1.00	1.88
	0.48	0.76	1.32	0.95
5.52/1,85/p<0.05				
Problems with nurses				
	1.27	1.16	0.22	1.42
	0.79	0.86	0.44	0.76
10.46/ 1,86 /p<0.01				
Criticism by supervisor				
	1.82	1.16	1.33	2.00
	1.17	0.96	0.87	0.85
7.41 / 1,86/p<0.01				
Lack of time for social life				
	1.73	1.89	1.22	2.35
	0.79	0.86	0.44	0.89
4.94 /1,87 /p<0.05				
Fear of making a mistake about treatment				
	2.00	1.80	1.00	1.85
	0.78	0.79	0.71	0.83
6.64 /1,87 /p<0.05				
Not enough time to complete all of my duties				
	2.00	1.86	0.67	1.81
	0.78	0.77	0.71	0.90
9.65 /1,86 / p<0.01				
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients				
	1.64	1.36	0.78	1.39
	0.81	0.66	0.84	0.70
6.13 /1,87 / p<0.05				
Lack of teaching				
	1.00	0.91	1.22	2.19
	0.78	0.68	0.83	0.63
8.92 / 1,86 /p<0.01				
Problems with other JHOs				
	0.64	0.36	0.56	1.23
	0.92	0.66	0.73	0.65
7.06 /1,84 /p<0.01				
Not knowing what type of job performance is expected				
	1.46	1.18	0.89	1.69
	0.82	0.75	0.60	0.84
7.47 /1,87/p<0.01				

3.3.3.3.3. Intensity when controlling frequency

Some items, namely 'work overload', 'lack of respect that you deserve from the general public', 'criticism by supervisor', 'lack of career advice', 'fear of making mistakes about treatment', 'lack of teaching', and 'problems with other JHOs ' showed interactions between country and duration (working as JHOs) (see Table 3.3.3.8). Post - hoc analyses indicated that Turkish JHOs who had been working for 3 months reported less stress than the other groups: 'work overload' (all p's < 0.01). In contrast, Turkish JHOs who had been working for 6 months reported more stress for 'lack of respect that you deserve from the general public' than the other groups (all p's < 0.05). Post hoc tests also indicated that English JHOs who had been working for 3 months reported more stress for 'fear of making mistakes' than Turkish JHOs who had been working for 6 months (p < 0.05).

Table 3.3.3.8. Interactions between country and time working as JHOs, in the analyses of individual items (intensity when controlling frequency)

ITEMS				
ENGLAND		**TURKEY**		
Short Adjusted Mean Se.	**Long** Adjusted Mean Se.	**Short** Adjusted Mean Se.	**Long** Adjusted Mean Se.	**F's / d.f.s. / P's**
Work overload				
2.22	2.25	1.26	2.41	**10.70/1,86/p<0.01**
0.20	0.10	0.22	0.13	
Lack of respect that you deserve from the general public				
0.78	0.60	0.88	1.61	**9.81/1,85/p<0.01**
0.17	0.09	0.19	0.13	
Criticism by supervisor				
1.94	1.39	1.19	1.60	**4.96/1,85/p<0.05**
0.25	0.13	0.28	0.18	
Lack of career advice				
1.12	0.94	0.99	1.55	**5.92/1,84/p<0.05**
0.18	0.09	0.20	0.12	
Fear of making a mistake about treatment				
2.03	1.79	1.22	1.77	**4.90 /1,86/p<0.05**
0.21	0.10	0.23	0.14	
Lack of teaching				
1.09	1.05	1.23	1.10	**7.04/ 1, 83 /p<0.01**
0.18	0.09	0.20	0.12	
Problems with other JHOs				
0.77	0.55	0.48	0.89	**4.53 /1,81/p<0.05**
0.17	0.09	0.19	0.12	

3.3.3.4. Effects of duration on the unit

A large number of items showed differences between English JHOs who had been working on the unit for both a short - time (< 2 months) and a longer time (> 2 months) and the Turkish sample. However, comparisons between the English groups showed that time on the unit was not an important influence on reports of frequency or intensity of stress (see Tables 3.3.3.9, 3.3.3.10 and 3.4.3.11).

Table 3.3.3.9. Effects of duration on the unit on the frequency of stress scores

ITEMS **ENGLAND / Short** Mean Sd.	**ENGLAND / Long** Mean Sd.	**TURKEY** Mean Sd.	**F's / d.f.s. / P's**
Awareness of lack of knowledge / skills [1,4]			
1.62	1.60	1.10	**10.56/2,107/p<0.001**
0.51	0.57	0.59	
Lack of a good physical work environment [3]			
1.08	1.02	1.55	**6.01 / 2,106 /p<0.01**
0.64	0.77	0.82	
Dealing with patients' relatives [1]			
1.77	1.73	1.35	**3.33 /2,107 /p<0.05**
0.73	0.77	0.83	
Dealing with your relatives as patients [2]			
0.54	0.23	0.94	**12.55/2,106/p<0.001**
0.88	0.56	0.75	
Lack of an opportunity to talk openly with other unit personnel about problems on the unit [3]			
0.46	0.83	1.22	**5.20 /2,107 /p<0.01**
0.66	0.83	0.90	
Lack of respect that you deserve from the general public [2,3]			
0.69	0.70	1.71	**22.77/2,106/p< 0.001**
0.75	0.69	0.87	
Dealing with death and dying [1]			
1.69	1.83	1.16	**7.04 /2,107 /p<0.01**
0.75	0.83	0.99	
Lack of an opportunity to share experiences with other personnel on the unit [2,3]			
0.62	0.57	1.22	**9.63 /2,106 /p<0.001**
0.65	0.72	0.82	
Work interferes with domestic life [1,4]			
2.08	1.85	1.43	**4.74 /2,106 /p<0.05**
0.76	0.86	0.82	
Criticism by supervisor [2,3]			
0.85	0.67	1.43	**13.35/2,107/p<0.001**
0.69	0.63	0.84	

Table 3.3.3.9. Effects of duration on the unit on the frequency of stress scores (continued)

ITEMS ENGLAND / Short Mean Sd.	ENGLAND / Long Mean Sd.	TURKEY Mean Sd.	F's / d.f.s. / P's
Interruptions of work by other people's phone calls			
2.25	2.50	1.31	**40.62/2,39/p<0.001**
0.45	0.65	0.92	
Lack of time for social life [2,3]			
1.69	1.92	2.29	**3.98 /2,107 /p<0.05**
0.95	0.82	0.76	
Being uncertain about to tell a patient or family about the patient's condition and / or needs of patients [1]			
1.31	1.33	0.96	**4.00 / 2,105/p<0.05**
0.75	0.60	0.58	
Dealing with long working hours [1]			
2.08	2.31	1.88	**3.30 / 2,105 /p<0.05**
0.76	0.72	0.95	
Number of beds responsible for [2,3]			
0.77	0.98	1.69	**8.48 /2,107/p<0.001**
0.83	0.98	1.00	
Lack of teaching [2]			
1.54	1.52	2.02	**4.46 / 2,104 /p<0.05**
0.78	0.91	0.81	
Problems with other JHOs [2,3]			
0.46	0.39	1.07	**11.85/ 2,105/p<0.001**
0.52	0.58	0.83	
Caring for the emotional needs of patients [1]			
1.31	1.41	0.90	**5.73 / 2,105/p<0.01**
0.63	0.78	0.77	

[1] = England long > Turkey ; [2]=England long < Turkey ; [3]= England short < Turkey ; [4]=England short > Turkey

Table 3.3.3.10. Effects of duration on the unit on the intensity of stress scores

ITEMS ENGLAND / Short Mean Sd.	ENGLAND / Long Mean Sd.	TURKEY Mean Sd.	F's/ d.f.s./ P's
Dealing with " difficult " patients [1,4]			
1.82	1.92	1.29	**12.71 /2,47/ p<0.001**
0.60	0.55	0.74	
Lack of a good physical work environment [2,3]			
0.64	1.17	1.69	**7.90 /2,103/p<0.001**
0.67	0.85	0.98	
Dealing with your relatives as patients [2,3]			
0.20	0.43	0.96	**7.29 / 2,96 / p<0.01**
0.63	0.71	0.84	

Table 3.3.3.10. Effects of duration on the unit on the intensity of stress scores (continued)

ITEMS ENGLAND / Short Mean Sd.	ENGLAND / Long Mean Sd.	TURKEY Mean Sd.	F's /d.f.s. /P's
Lack of an opportunity to talk openly with other unit personnel about problems on the unit [2,3]			
0.46	0.74	1.18	**6.84 /2,103 /p< 0.01**
0.52	0.65	0.83	
Lack of respect that you deserve from the general public [2,3]			
0.64	0.43	1.51	**23.88 /2,38 /p<0.001**
0.81	0.58	0.92	
Criticism by a supervisor [2]			
1.82	1.20	1.78	**4.67 /2,103 /p<0.05**
1.17	0.98	0.94	
Lack of career advice [2]			
0.91	0.98	1.51	**5.54 /2,102 / p<0.01**
0.94	0.75	0.89	
Interruptions of work by other people's phone calls [1,4]			
1.91	2.13	1.14	**18.31 /2,91 /p<0.001**
0.54	0.89	1.06	
Not enough time to complete all of my duties [1]			
2.00	1.85	1.35	**5.65 /2.50 / p<0.01**
0.78	0.76	0.95	
Dealing with your friends as patients [2,3]			
0.30	0.44	0.94	**6.04 / 2,97/p < 0.01**
0.68	0.74	0.80	
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients [4]			
1.64	1.40	1.12	**3.23 / 2,104/ p< 0.05**
0.81	0.68	0.73	
Dealing with long working hours [1]			
2.00	2.47	2.00	**4.31 /2,104 / p<0.05**
0.78	0.65	0.96	
Number of beds responsible for [2]			
1.15	1.38	1.88	**4.47 / 2,107 / p<0.05**
0.80	0.96	1.05	
Lack of teaching [2,3]			
1.00	0.94	1.71	**12.23 /2,46 /p<0.001**
0.78	0.68	0.94	
Problems with other JHOs [2]			
0.64	1.02	0.39	**7.27 / 2,27/p<0.01**
0.92	0.69	0.69	
Caring for the emotional needs of patients [1]			
1.18	1.26	0.90	**3.67 /2,104 /p<0.05**
0.41	0.68	0.68	

[1] = England long > Turkey ; [2] = England long < Turkey ; [3] = England short < Turkey ;
[4] = England short > Turkey

Table 3.3.3.11. Effects of duration on the unit on the intensity of stress scores when covarying frequency scores

ITEMS ENGLAND / Short Adjusted Mean Se.	ENGLAND / Long Adjusted Mean Se.	TURKEY Adjusted Mean Se.	F's/ d.f.s./ P's
Dealing with " difficult " patients			
1.83	1.90	1.30	**12.50/2,103/p<0.001**
0.18	0.09	0.09	
Lack of a good physical work environment			
0.77	1.37	1.49	**4.69 /2,101 /p<0.05**
0.21	0.11	0.10	
Lack of respect that you deserve from the general public			
0.81	0.66	1.26	**6.70 /2,102 / p<0.01**
0.21	0.11	0.11	
Dealing with new technology			
0.56	0.49	0.89	**4.40 /2,102/ p<0.05**
0.19	0.10	0.09	
Lack of career advice			
1.10	0.97	1.47	**6.02 / 2,100/p<0.01**
0.21	0.11	0.10	
Not enough time to complete all of my duties			
1.98	1.75	1.44	**4.34 /2,101/ p<0.05**
0.20	0.10	0.09	
Lack of teaching			
1.12	1.09	1.60	**5.64 /2,99 /p<0.01**
0.22	0.11	0.11	

3.3.3.5. Summary of interactions between country and gender, types of hospital unit , time working as JHOs and effects of duration on the units

1. Interactions between country and gender were found only in the analyses of intensity and intensity when controlling frequency. Turkish male JHOs reported less stress for 'work overload' whereas they were reported more stress for: 'dealing with your friends as patients'. On the other hand, 'dealing with death and dying' was reported to be more stressful by Turkish female JHOs .

2. Very few items showed interactions between country and types of hospital unit and where there were interactions they reflected different patterns of results.

3. Interactions were found between country and time working as JHOs for frequency, intensity and intensity when controlling frequency scores. When considering frequency, Turkish JHOs who had been working as JHOs for only 3 months reported less stress than the other groups for: 'dealing with death and dying' and 'problem with nurses', whilst Turkish JHOs who had been working as JHOs for six months, reported more stress for: 'dealing with your friends as patients', and 'number of beds responsible for'.
When considering identification of intensity of stress sources, the differences were greater for English and Turkish JHOs who had been working as JHOs for 3 months for: 'work overload', 'problem with nurses', 'fear of making mistakes', 'not enough time to complete all of my duties' whereas the differences were greater for English and Turkish junior house officers who had been working as JHOs for 6 months for: 'lack of respect that you deserve from general public', 'criticism by supervisor', 'lack of teaching', 'problem with other JHOs', and 'not knowing what type of job performance is expected'. The same patterns emerged with regard to intensity when controlling for frequency of stress scores.

As in the first study, there were relatively few interactions between country and the other factors examined, compared to the large main effects of country. Items which showed interactions between country and modifying factors (gender, type of hospital unit) reflected different patterns in the second study.

3.3.5. Results of perceived stress scale (PSS)

The mean perceived stress scores were greater in the Turkish sample but this effect not significant (F=1.83, df=1,104). The mean scores were: Turkish JHOs=26.63, sd=7.16; English JHOs=24.79, sd=5.61. The results showed positive correlations between job stress (total frequency and total intensity) and perceived subjective stress (PSS) for both the Turkish sample { r (totfreq.)=0.4821, n-2=47, $p < 0.001$, r (totint.)=0.4534, n-2=47, $p < 0.01$} and English sample { r (totfreq.)=0.3731, n-2=59, $p < 0.001$, r (totint.)=0.4842, n-2=59, $p < 0.001$}.

3.3.5. DISCUSSION

The main aim of the second study was to determine whether the results of the first study could be replicated. On the basis of these earlier findings the following hypotheses were tested:

1. JHOs in England would report more frequent stress than JHOs in Turkey.
2. This difference between countries would be greater in females than males.
3. The differences between countries would be selective and depend on the type of stress.
4. Differences between countries would be less apparent for the intensity of stress.
5. Modify effects of types of hospital unit would emerge in terms of frequency.
6. Contextual factor, such as duration on the unit, would not modify the differences between Turkey and the UK.
7. There would be some differences identification of frequency and intensity of job related stress sources.

In addition, the present study , also examined whether stress at work was related to global ratings of stress and was also investigated effects of time working as a JHO.

Analysis of the total frequency of stress scores did not support the previous findings. However, when time as a JHO was considered it was apparent that English JHOs who had been working for 6 months reported more frequent stress than Turkish JHOs who had been working for a short period. This confounding of country with time as a JHO could account for the result obtained in the first study. Similarly, the country x gender interaction present in the first study was not significant here. Again, the previous finding could reflect some correlated attribute rather than gender per se.

The present results confirmed that the differences between countries were selective and only found for certain items. Some of these were the same as the previous study (e.g. English JHOs found the following to be more frequent sources of stress in both studies: 'Interruptions of the work by other people's phone calls'; 'Dealing with long working hours'). Such effects can largely be explained by different working practices or facilities in the two countries. However, other effects were apparent here that were not significant in the first study (e.g. Turkish JHOs reported that the following items produced more frequent stress: 'lack of time for social life', 'number of beds responsible for'; English JHOs complained more about 'being uncertain about what to tell a patient or family about the patient' condition and/or needs of of patients'). These could reflect specific features of the samples investigated.

Again, a difference between the present study and the first was observed for hypothesis 4. Here intensity revealed nearly as many differences between country as did analysis of the frequency of stress. Contextual factors, such as type of unit or duration on the unit, could not explain the differences between countries.

As in the first study, some differences also emerged in the second study for frequency and intensity of job related stress sources. Like Welsh JHOs in the first study, English JHOs in this study reported that work frequently

interfered with domestic life but not caused to great stress. As in the first study, English JHOs also found that 'work overload' led to intense stress although it was not one of the most frequent kind of stressors. Similarly, considering intensity when controlling frequency , 'dealing with 'difficult ' patients' caused more intense stress in English JHOs and this item was followed by: 'not enough time to complete all of my duties', and 'lack of time for social life'. On the other hand, the Turkish data also showed differences between frequency and intensity of stress sources. For example, 'lack of time for social life' was more commonly reported by Turkish JHOs as were 'lack of teaching', 'number of beds responsible for' whilst 'number of beds responsible for' led to intense stress in Turkish JHOs as did 'criticism by a supervisor', and 'lack of a good physical work environment'. Regarding intensity when covarying frequency, 'lack of career advice' caused great stress in Turkish JHOs and this item was followed by 'lack of respect that you deserve from the general public', and 'dealing with new technology'.

The results also showed that two countries did not differ significantly on the perceived stress scale. However, numerically, Turkish JHOs showed higher levels of perceived stress than English JHOs.

In order to obtain a clearer view of which effects were consistent across studies and which differed the two sets of data were combined in a single analysis. Results from such analyses are summarised in the next section.

3.4. THE SUMMARY OF THE COMBINED DATA (STUDY 1 AND STUDY 2)

The following analyses were conducted:

1. Overall stress scores
2. A factor analysis of the individual items
3. Analysis of the factor scores
4. Consideration of the individual items

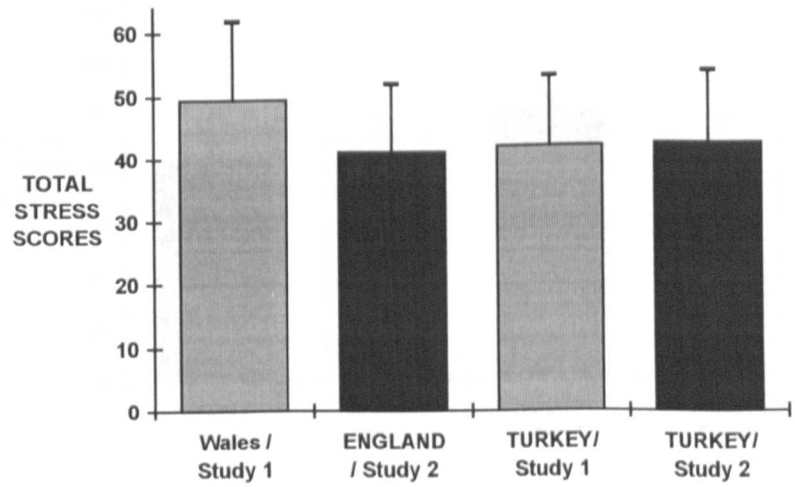
In all of these frequency of stress, intensity of stress and intensity controlling for frequency were examined. As well as the usual variables, study number was included in the analyses.

3.4.1. Total stress scores

3.4.1.1. Effect of country

A country effect was not found for either frequency (F=2.98, df=1,174) , intensity (F=0.25, df= 1,178) , nor intensity when controlling frequency (F=2.38, df=1,164). The results showed that there was an interaction between country and study in the analysis of the frequency scores (F=6.22, df=1, 174 , $p < 0.05$). A Tukey test indicated that Welsh JHOs in the first study (mean=49.42, sd=12.43) had higher stress scores than their English colleagues in the second study (mean=41.18, sd=10.76 ; at level of $p < 0.01$) and Turkish junior house officers in the first (mean=42.11, sd=11.11 ; at level of $p < 0.05$) and second (mean=42.51, sd=11.43; at level of $p < 0.05$) studies (see Figure 3.4.1.1). There was no evidence of similar interactions in the other analyses.

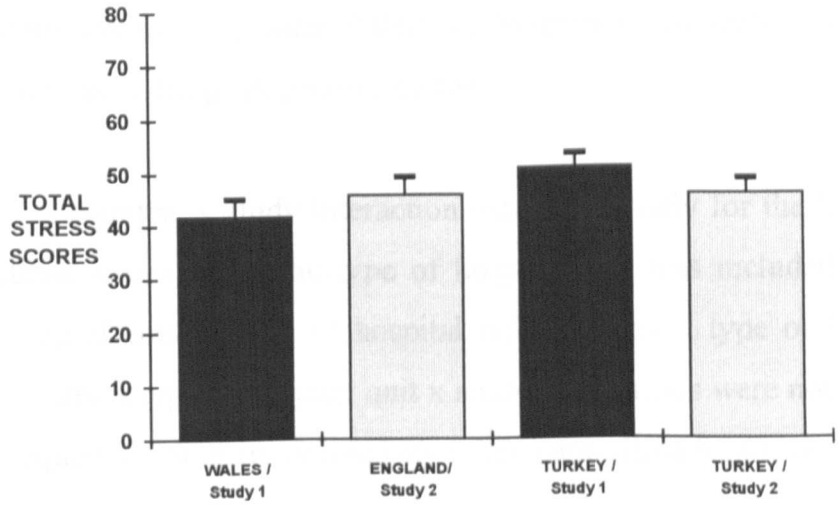
FIGURE 3.4.1.1. INTERACTION BETWEEN COUNTRY AND STUDY FOR THE TOTAL FREQUENCY STRESS SCORE
(Scores are the means and s.d.s shown as bars)



3.4.1.2. Effect of gender

A main effect of gender was found for the intensity score (F=4.66, df=1,174, $p < 0.05$), with Turkish and Welsh female JHOs in the first study showed more stress than Turkish and English male JHOs in the second study. Country x study interaction was found for the frequency stress score (F= 7,17, df, 1, 170, $p < 0.01$). This interaction is already discussed in section 3.4.1.1 and is shown Figure 3.4.1.1. Interaction between country and study also emerged in terms of the intensity when controlling frequency as a covariate (F= 4,25, df= 1, 169, $p < 0.05$) and is shown in Figure 3.4.1.2. The mean scores show that Turkish JHOs in study 1 (mean= 50.83, se=2.56) showed more stress than Welsh JHOs in study 1 (mean=41.85, se=3.34), English JHOs (mean=45.90, se= 3.38) and Turkish JHOs in the study 2 (mean= 45.77, se= 2.82). However, no main effect of gender nor country x gender interaction or country x gender x study interaction were found for either the frequency, or intensity covarying frequency scores. Similarly, no gender x study interactions nor country x gender x study interactions were significant for the intensity of stress scores.

FIGURE 3.4.1.2. INTERACTION BETWEEN COUNTRY AND STUDY FOR THE TOTAL INTENSITY SCORES WHEN CONTROLLING TOTAL FREQUENCY SCORES
(Scores are the adjusted means with s.e.s shown as bars)



3.4.1.3. Effect of type of hospital unit

Main effects of type of hospital unit were not found for the frequency, intensity and nor intensity when covarying frequency. Similarly, neither country x type of hospital unit interaction or country x study x type of hospital unit interactions were significant for either frequency or intensity of scores.

However, a country x study interaction emerged only in terms of frequency of stress scores. This interaction has been discussed in section 3.4.1.1 and is shown in Figure 3.4.1.1.

3.4.1.4. The summary of overall stress scores

1. A country effect was not found for either frequency, intensity or intensity when covarying frequency. A country x study interaction was found only in terms of frequency, with Welsh JHOs in the first study reporting more frequent stress than the others.

2. When gender was added to the analyses, main effect of gender was found with regard to intensity of stress scores. Country x study interaction was also found only for the frequency score and intensity when controlling total frequency stress scores. Neither country x gender or country x gender x study interactions were found for frequency, intensity and intensity when controlling frequency stress scores.

3. A country x study interaction was found only for the frequency of total stress scores when the type of hospital unit was included in the analysis. Main effects of type of hospital unit, country x type of hospital unit and country x type of hospital unit x study interactions were not found either for frequency, intensity or intensity when controlling frequency of stress scores.

3.4.2. Factor analysis of individual items

Factor analysis was carried out to see how the items were categorised in terms of frequency and intensity in the combined data. A principal components analysis followed by orthogonal rotation was conducted.

3.4.2.1. Factor analysis for frequency

When a factor analysis was carried out for the frequency of stress scores for the Welsh and English combined data (study 1 and study 2), 9 factors emerged accounting for about 70 % of the variance. The first factor accounted for about 23 % of the variance (see Table 2.4 in Appendix 2). When the same analysis was run for Turkish combined data (study 1 and study 2), 10 factors emerged accounting for about 65 % of the variance in terms of frequency of stress. The first factor accounts for about 21 % of the variance (see Table 2.5 in Appendix 2). The factor analysis was also carried out on Turkish , Welsh and English combined data (study 1 and study 2). From this combined data, 9 factors emerged accounting for about 62 % of the variance. The first factor accounted for about 19 % of the variance (see Table 3.4.2.1). In general , it seems that one large factor emerged from the combined data, followed by other small factors. When factor one and total stress score were correlated, a high positive correlation was found ($r=0.70$, $N=199$, $p < 0.01$). This suggests that a single poorly defined factor is present and that effects should generalise across individual factors.

Table 3.4.2.1. Factor analysis of job stressors in terms of frequency among Welsh / English and Turkish junior house officers (combined data : study 1 + study 2)

FACTOR 1: (19% of variance) Work overload and lack of good working conditions	**Loadings**
Not having enough staff to adequately provide necessary services	0.75
Work overload	0.72
Lack of a good physical work environment	0.65
Not enough time to complete all of my duties	0.60
FACTOR 2: (12 % of variance) Problems with other staff	
Problems with nurses	0.80
Problems with senior doctors	0.79
Problems with other junior house officers	0.77
Number of beds responsible for	0.63
FACTOR 3: (7% of variance) Not knowing how to deal with difficult patients and their relatives ; and death and dying	
Dealing with death and dying	0.75
Dealing patient's relatives	0.60
Dealing with " difficult " patients	0.53
FACTOR 4: (5% of variance) Criticism, lack of consideration from others	
Criticism by a supervisor	0.66
Lack of respect that you deserve from the general public	0.62
Interruptions of work by other people's phone calls	-0.55
FACTOR 5: (5% of variance) Insecurity about their knowledge	
Fear of making a mistake about treatment	0.83
Feeling helpless in the case of a patient who fails to improve	0.51
FACTOR 6: (4 % of variance) Lack of advice	
Lack of career advice	0.78
Lack of teaching	0.61
FACTOR 7: (3 % of variance) Dealing with your friends and relatives as patients	
Dealing with your relatives as patients	0.80
Not knowing what type of job performance is expected	0.59
Dealing with your friends as patients	0.55
FACTOR 8: (3 % of variance)	
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	0.81
FACTOR 9: (3 % of variance) Lack of social interaction	
Lack of an opportunity to share experiences with other personnel on the unit	0.65
Lack of time for social life	0.51

3.4.2.2. Factor analysis for intensity

When a factor analysis was carried out on the combined Welsh and English intensity data (study 1 and 2), 9 factors emerged accounting for about 72 % of the variance. The first factor accounted for about 26 % of the variance (see Table 2.6 in Appendix 2). When a factor analysis was run for the Turkish combined data (study 1 and 2), 6 factors emerged accounting for about 64 % of the variance. The first factor accounted for about 38 % of the variance (see Table 2.7 in Appendix 2) . A factor analysis was also carried

out on Turkish, Welsh and English combined data (study 1 and 2). This yielded 7 factors accounting for about 63% of the variance (see Table 3.4.2.2). The first factor accounted for about 32% of the variance. Once again, it seems that one big factor emerged from the combined data and this was followed by other small factors. When factor one and the total stress score were correlated , a high positive correlation ($r = 0.81$, $N=199$, $p < 0.01$) was found.

Table 3.4.2.2: Factor analysis of the intensity of stress data from Welsh / English and Turkish junior house officers (combined data : study 1 + study 2)

FACTOR 1: (32 % of variance) Lack of support / advice and problems with other staff	**Loadings**
Lack of career advice	0.72
Lack of support from senior staff	0.70
Lack of teaching	0.70
Problems with senior house officers	0.65
Problems with junior house officers	0.59
Lack of respect that you deserve from the general public	0.59
Not knowing what type of job performance is expected	0.58
Lack of an opportunity to share experiences with other personnel on the unit	0.38
FACTOR 2: (8 % of variance) Working environment	
Dealing with new technology	0.68
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.67
Problems with nurses	0.59
Lack of a good physical work environment	0.55
FACTOR 3: (6 % of variance) Work overload	
Lack of time for social life	0.72
Work overload	0.71
Dealing with long working hours	0.63
Work interferes with domestic life	0.52
FACTOR 4: (5 % of variance) Not knowing how to deal with patients ' emotional needs	
Feeling helpless in the case of a patient who fails to improve	0.73
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	0.68
Dealing with death and dying	0.66
Caring for the emotional needs of patients	0.60
FACTOR 5: (5 % of variance) Phone calls	
Interruptions of work by other people's phone calls	0.71
FACTOR 6: (4 % of variance) Dealing with your friends and relatives as patients	
Dealing with your relatives as patients	0.87
Dealing with your friends as patients	0.87
FACTOR 7: (3 % of variance) Insecurity about their knowledge	
Awareness of lack of knowledge / skills	0.70
Fear of making a mistake about treatment	0.57

3.4.2.3. Analysis of variance for factor scores which came from the combined factor analysis

3.4.2.3.1. Frequency

6 factors out of 9 showed a country effect in terms of frequency (see Table 3.4.2.3) .

The following stress factors were more frequent in the UK than Turkey:

1) Factor 2: *Problems with other staff*

2) Factor 3: *Not knowing how to deal with difficult patients and their relatives; dealing with death and dying*

3) Factor 8: *Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients*

On the other hand, the following factors were more frequent in Turkey:

1) Factor 6: *Lack of advice*

2) Factor 7: *Dealing with your friends and relatives as patients*

3) Factor 9: *Lack of social interaction.*

Although Factor 2 showed a main effect of country this has to be considered in relation to the significant country x study interaction. The country effect was entirely due to the study 1 UK sample. A Tukey test showed that Welsh JHOs in the first study found this factor to be a more frequent source of stress than their English colleagues in the second study and Turkish JHOs in the first and second study (all p's < 0.01). Similarly, Factor 9 also showed a country x study interaction. A Tukey test indicated that Turkish JHOs in the first and second study reported more stress for Factor 9 than their English counterparts in the second study (both p's < 0.01). On the other hand, Factor 4 " criticism, lack of consideration from others " , only showed a country x study interaction . A Tukey test indicated that Welsh JHOs in the first study reported more stress for Factor 4 than their English counterparts in the second study (p's < 0.05) (see Table 2.8 in Appendix 2).

Factor 1 'work overload and lack of a good working conditions ' , and Factor 5 'insecurity about their knowledge', didn't show any significant differences between countries (see Table 2.9 in Appendix 2) .

Table 3.4.2.3. The factors which showed country effects in terms of frequency of stress

FACTORS	TURKEY		UK		
	Mean	SD.	Mean	SD.	F's / d.f.s / P's
FACTOR 2 *					
	1.19	0.52	1.57	0.98	7.20 / 1,47 / $p < 0.01$
FACTOR 3 *					
	1.29	0.57	1.67	0.52	22.47/1,195/ $p < 0.001$
FACTOR 6					
	1.79	0.73	1.53	0.87	4.86 / 1,133 / $p < 0.05$
FACTOR 7 *					
	1.14	0.52	0.59	0.52	54.01/1,191 / $p< 0.001$
FACTOR 8 *					
	0.99	0.62	1.30	0.63	11.67/1,151/ $p< 0.001$
FACTOR 9 *					
	1.71	0.68	1.38	0.66	12.07 / 1,194 / $p<0.01$

*= Country effect held up when other factors (e.g. gender and types of hospital unit) were included in the analyses.

3.4.2.3.2. Intensity

Four factors out of 7 showed a country effect with regard to intensity (see Table 3.4.2.4).

The following factors were associated with more intense stress in the UK than Turkey:

1) Factor 3: *Work overload*

2) Factor 5: *Interruptions of work by other people's phone calls*

3) Factor 7: *Insecurity about their knowledge*

The following factor produced more intense stress in Turkey:

1) Factor 1: *Lack of support / advice and problems with other staff.*

On the other hand, Factor 6 'dealing with your friends and relatives as patients', only showed a country x study interaction . A Tukey test indicated that Turkish and Welsh JHOs in the first study showed more stress than

English JHOs in the second study ($p < 0.01$) (see Table 2.10 in Appendix 2).

Factor 2 which was called 'working environment', and Factor 4 'not knowing how to deal with patients' emotional needs', didn't show any significant differences between the two countries (see Table 2.11 in Appendix 2).

Table 3.4.2.4 : The factors which showed country effect in terms of intensity of stress

FACTORS	TURKEY		UK		
	Mean	SD.	Mean	SD.	F's / d.f.s / P's
FACTOR 1 *	10.12	0.62	9.61	0.54	30.83/1,189/ $p < 0.001$
FACTOR 3 *	1.88	0.80	2.27	0.57	8.99/1,180/ $p< 0.01$
FACTOR 5 *	1.16	1.09	2.28	0.75	69.71/1,177/ $p<0.001$
FACTOR 7	1.53	0.79	1.79	0.67	5.68 / 1,192/$p< 0.05$

*= Country effect held up when other factors (e.g. gender and types of hospital unit) were included in the analyses.

3.4.2.3.3. Intensity when controlling frequency

Two factors out of 7 showed a significant difference between countries for intensity when controlling frequency (see Table 3.4.2.5). Turkish junior house officers found *factor 1* which was called *' lack of support and problems with others'* , more stressful than British junior house officers. Similarly, factor 2 which was called 'working environment', was more stressful for Turkish JHOs than British JHOs.

Although Factor 1 showed a main effect of country, this has to be considered in relation to the country x study interaction. The country effect was entirely due to the study 1 Turkish sample. Post hoc analysis showed that Turkish JHOs in the first study found factor 1 more stressful than Welsh junior house officers in the first study ($p < 0.01$). On the other hand, Factor 6 'dealing

with your friends and relatives as patients', only showed a country x study interaction. However, posthoc analysis did not show any significant differences between the four groups ($p < 0.05$). Numerically, Welsh JHOs in study one showed more stress than their English counterparts in the second study and their Turkish colleagues in study 1 and study 2 (see Table 2.12 in Appendix 2).

Factors 3, 4, 5, and 7 'work overload', 'not knowing how to deal with patients' emotional needs', 'interruptions of work by other people's phone calls', and 'insecurity about their knowledge', didn't show any differences between the two countries (see Table 2.13 in Appendix 2).

Table 3.4.2.5. The factors which showed country effect in terms of intensity when controlling frequency of stress

FACTORS	**TURKEY**	**UK**		
Adjusted Mean	**SE.**	**Adjusted Mean**	**SE.**	**F's / d.f.s / P's**
FACTOR 1 *				
10.00	0.07	9.76	0.07	12.77/1,182/ $p < 0.01$
FACTOR 2 *				
1.20	0.09	1.14	0.11	8.26/1,187/ $p < 0.01$

*= Country effect held up when other factors (e.g. gender and types of hospital unit) were included in the analyses.

3.4.2.4. The summary of analysis of total factor scores which came from factor analysis of combined data

1. The following factors had higher frequency scores in the UK than Turkey: which were named "problems with other staff " , " not knowing how to deal with difficult patients / their relatives and dealing with death and dying", "being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients " . In contrast , these factors had higher frequency scores in Turkey : "lack of advice ", " dealing with your friends and relatives as patients ".

2. " Work overload ", " interruptions of work by other people's phone calls", and " insecurity about their knowledge " , produced more intense stress in

British JHOs, whereas Turkish JHOs only found one factor " lack of support / advice and problems with other staff " , more stressful .

3. Turkish JHOs had higher stress score for intensity when controlling for frequency for two factors. These were 'lack of support and problems with others' and ' working environment'.

3.4.3. Specific types of stress - Differences in frequency and intensity of individual items

3.4.3.1. Identification of frequency of stress sources

a) Main effects of country

The results indicated that 23 out of 31 items (74%) showed a significant difference between countries in terms of frequency of stress .

Nine items out of 23 (39 %) were more frequent in the UK whereas 10 items out of 23 (44 %) were more frequent in Turkey (see Tables 3.4.3.1 and 3.4.3.2). In general, it seems that the items related to *interpersonal* issues , such as problems with nurses, dealing with your relatives as patients, lack of support from senior staff, and the *physical environment* showed a reliable effect in Turkish samples whilst the items related to *work overload, insecurity about their knowledge, dealing with death and dying, dealing with " difficult " patients , dealing with new technology* showed robust effects in the British samples. When the individual items were categorised by factors, it was found that some items in the factors were significant whereas others were not. For example, if one considers the largest factor one finds that work overload was a more frequent source of stress in the UK whereas lack of a good working environment was more frequent in Turkey. Other items in the factor showed no differences between the two countries. The poor reliability within factors suggests that it is more appropriate to focus on individual items, or on their conceptual grouping, rather than statistically derived factors.

Table 3.4.3.1. Items which showed robust effects in terms of frequency of stress sources for the British sample

ITEMS	UK		TURKEY		
	Mean	SD.	Mean	SD.	**F's / d.f.s. / P's**
Dealing with " difficult " patients	1.42	0.59	1.23	0.63	4.51 / 1, 195 / $p < 0.05$
Awareness of lack of knowledge / skills *	1.70	0.65	1.13	0.61	39.66 / 1, 195/ $p < 0.001$
Dealing with patients' relatives *	1.83	0.69	1.46	0.86	9.87 / 1,195/$p < 0.01$
Work overload *	1.94	0.72	1.60	1.86	7.54 / 1,195/$p< 0.01$
Dealing with death and dying *	1.77	0.77	1.18	0.94	21.59 / 1, 195/ $p < 0.001$
Dealing with new technology *	0.99	0.69	0.59	0.62	17.36 / 1,194 / $p < 0.001$
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients *	1.30	0.63	0.99	0.62	11.59 / 1,193 / $p < 0.001$
Dealing with long working hours *	2.34	0.74	1.80	0.86	21.10 / 1, 195/ $p < 0.001$
Caring for the emotional needs of patients *	1.47	0.73	0.88	0.79	28.18 / 1,193 / $p < 0.001$

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

Table 3.4.3.2. Items which showed robust effects in terms of frequency of stress sources for the Turkish sample

ITEMS				
TURKEY		**UK**		
Mean	SD.	Mean	SD.	**F's / d.f.s. / P's**
Lack of a good physical work environment *				
1.60	0.89	1.24	0.79	8.28 / 1,194/p < 0.01
Dealing with your relatives as patients *				
0.97	0.73	0.35	0.87	30.07/1,194/p<0.001
Lack of an opportunity talk openly with other personnel about problems on the unit *				
1.34	0.95	1.01	0.85	6.43 / 1,195 / p < 0.05
Lack of respect that you deserve from the general public *				
1.74	0.93	0.88	0.60	53.34 / 1, 194 /p < 0.001
Lack of an opportunity to share experiences with other personnel on the unit*				
1.25	0.98	0.75	0.79	14.70 / 1,194 / p< 0.001
Criticism by a supervisor *				
1.37	0.81	0.81	0.61	27.79 /1,195 / p<0.001
Dealing with your friends as patients *				
0.80	0.66	0.26	0.44	44.42 / 1, 194/p < 0.001
Lack of support from senior staff *				
1.51	0.84	1.01	0.77	18.53 / 1, 195/p < 0.001
Lack of teaching *				
1.99	0.83	1.63	0.91	7.97 / 1, 192 / p < 0.01
Not knowing what type of job performance is expected *				
1.61	0.97	1.14	0.80	12.61 / 1,193/p < 0.001

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

b) Country x study interactions

Four items out of 23 (17 %) showed a main effect of country and also a country x study interaction. For two of these items ('problems with dealing with senior doctors' and 'problems with nurses') a Tukey test indicated that Welsh JHOs in study 1 reported more frequent stress than English JHOs in study 2 and Turkish JHOs in studies 1 and 2 (all p's < 0.01). For the remaining items ('work interferes with domestic life' and 'interruptions of work by other peoples' phone calls) a Tukey test showed that British JHOs in studies 1 and 2 reported more frequent stress than Turkish JHOs in the studies 1 and 2 (all p's < 0.01) (see Table 2.14 in Appendix 2).

The results also showed that three items only showed country x study interactions with no main effect of country. For ' lack of time for social

life', a Tukey test indicated that Turkish JHOs in study 2 reported more frequent stress than English JHOs in study 2 ($p < 0.05$). For ' number of beds responsible for' a Tukey test showed that Welsh JHOs in the first study reported more frequent stress than Turkish JHOs in studies 1 ($p < 0.01$) and 2 ($p < 0 .05$) and their English colleagues in the study 2 (at level of $p < 0.05$). Similarly, for the same item, English JHOs reported more frequent stress than Turkish JHOs in studies 1 and 2 (both p's < 0.01). For "problems with other JHOs", Tukey test showed that Welsh JHOs in study 1 reported more frequent stress than their English counterparts in study 2 and the Turkish JHOs in the study 1 (both p 's < 0.01). For the same item Turkish JHOs in study 2 reported more stress than English JHOs in the second study ($p < 0.01$).

c) No effect of country or country x study interaction

Four items also didn't show any significant differences between two countries (see Table 15 in Appendix 2).

3.4.3.2. Identification of intensity of stress sources

a) Main effects of country

Sixteen items out of 31 (52 %) showed a country effect with regard to intensity of stress sources. 8 items out of 16 (50 %) were more intense in the UK whereas 7 items out of 16 (44 %) were more intense in Turkey (see Tables 3.4.3.3 and 3.4.3.4). In general, it seems that the items related to the *physical environment* and *interpersonal issues*, showed robusts effect in Turkey whilst the items related to *work overload, dealing with " difficult " patients, insecurity about their knowledge, and interruptions of work by other peoples' phone calls* , showed reliable effects in the UK . Again, items within factors showed different profiles of effects. These data confirm that it is better either to consider individual items or to one some other form of grouping.

Table 3.4.3.3. Items which showed robust effects in terms of intensity of stress sources for the British sample

ITEMS	UK		TURKEY		
	Mean	SD.	Mean	SD.	**F's / d.f.s. / P's**
Dealing with " difficult " patients *	1.89	1.22	1.40	0.84	21.30 / 1, 192 / P< 0.001
Awareness of lack of knowledge / skills *	1.71	0.74	1.47	0.88	3.99 / 1,192 / P < 0.05
Work overload *	2.41	0.62	1.93	1.04	13.86 / 1,192 / P < 0.001
Work interferes with domestic life *	1.95	0.90	1.56	1.06	6.85 / 1,191/ P < 0.01
Interruptions of the work by other people's phone calls *	2.27	0.75	1.16	1.09	69.71 / 1,177 / P <0.001
Fear of making a mistake about treatment *	1.87	0.78	1.60	0.91	4.79 / 1, 192 / P < 0.05
Not enough time to complete all my duties *	1.87	0.80	1.44	1.00	10.77 / 1, 161 / P < 0.01
Dealing with long working hours *	2.45	0.66	1.94	0.99	18.26 /1, 173 / P < 0.001

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

Table 3.4.3.4. Items which showed robust effects in terms of intensity of stress sources for the Turkish sample

ITEMS	TURKEY		UK		
	Mean	SD.	Mean	SD.	**F's / d.f.s. / P's**
Lack of a good physical work environment *	1.78	1.11	1.33	0.84	10.33 / 1, 170 / p < 0.01
Lack of respect that you deserve from the general public *	1.79	1.14	0.65	0.73	69.12 /1, 151 / p < 0.001
Lack of an opportunity to share experiences with other personnel on the unit*	1.12	1.07	0.69	0.94	8.17 / 1, 191 / p < 0.001
Criticism by a supervisor *	1.79	1.02	1.34	0.97	9.77 / 1,172 / p < 0.01
Lack of career advice *	1.61	1.01	1.06	1.00	14.39 / 1,190/p <0.001
Lack of teaching *	1.88	0.95	1.02	0.75	47.36 / 1,157/p<0.001
Problems with other JHOs *	0.95	0.81	0.53	0.92	11.61/ 1,189 / p<0.001

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

b) Study x country interaction

The item ' not knowing what type of job performance is expected', showed both a main effect and country x study interaction. For this item, a Tukey test indicated that Turkish JHOs in the first study reported great stress than Welsh JHOs in the first study ($p < 0.01$) and Turkish JHOs in the second study reported greater stress than English JHOs in the second study (at the level of $p < 0.01$). Four items out of 31 (13 %) also showed a country x study interaction without a main effect of country . For ' dealing with your relatives as patients ', a Tukey test showed that Welsh JHOs in the first study reported more intense stress than their English ($p < 0.01$) and Turkish ($p < 0.05$) counterparts in the second study. Similarly , for the same item, Turkish JHOs in the first study reported more intense stress than English JHOs in the second study ($p < 0.01$). For " dealing with your friends as patients ", a Tukey test showed that Welsh JHOs in the first study reported greater stress than their English colleagues in the second study ($p < 0.05$) . For "number of beds responsible for ", English JHOs in the second study reported more intense stress than Turkish JHOs in the second study and English JHOs in the first study (both p's < 0.05) (see Table 2.16 in Appendix 2).

c) No difference between countries

Ten items out of 31 (32 %) didn't show any significant differences between the two countries (see Table 2.17 in Appendix 2).

3.4.3.3. Identification of intensity when controlling frequency of stress sources

a) Main effects of country

Ten items out of 31 (32 %) showed a country effect considering identification of intensity when controlling frequency of stress sources. Three items out of 10 (30 %) showed more stress in the UK whilst 7 items out of 11 (70 %) showed more stress in Turkey (see Tables 3.4.3.5 and 3.4.3.6) . In general, it seems that the items related to *work overload*, and *dealing with " difficult " patients* , produced greater stress for the British JHOs whereas the items related to *interpersonal* issues , 'dealing with *death and dying'* and *'dealing with new technology'*, were rated more stressful by Turkish JHOs.

Table 3.4.3.5. Items which showed robust effects in terms of intensity when controlling frequency of stress sources for the British sample

ITEMS	UK		TURKEY		F's / d.f.s. / P's
	Mean	SD.	Mean	SD.	
Dealing with " difficult " patients *	1.86	0.11	1.41	0.10	17.76/1,191/p < 0.001
Work overload	2.30	0.12	2.00	0.21	6.94 / 1,191 / p < 0.001
Not enough time to complete all of my duties	1.78	0.11	1.50	0.10	7.48 / 1,189 / p < 0.01

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

Table 3.4.3.6. Items which showed robust effects in terms of intensity when controlling frequency stress sources for the Turkish sample

ITEMS				
TURKEY		**UK**		**F's / d.f.s. / P's**
Mean	SD.	Mean	SD.	
Problems with senior doctors				
1.45	0.13	1.03	0.15	9.61/1,188/ P < 0.001
Lack of respect that you deserve from the general public *				
1.56	0.13	0.90	0.14	20.74 / 1,190/ P < 0.001
Dealing with death and dying				
1.74	0.14	1.44	0.15	4.01 / 1,189/ P < 0.05
Dealing with new technology				
0.98	0.13	0.62	0.14	6.81 / 1, 190 / P < 0.01
Lack of career advice *				
1.57	0.13	1.10	0.14	13.51 /1, 188 / P < 0.001
Lack of teaching *				
1.79	0.11	1.13	0.12	34.35 /1,187 / P < 0.001
Problems with other JHOs *				
0.94	0.11	0.48	0.13	15.92 / 1,186 / P < 0.001

*: Country effect held up when other factors (gender and types of hospital unit) were included in the analyses.

b) Country x study interactions

Four items out of 31 (13 %) also showed country x study interactions without main effects of country. For 'dealing with relatives as patients' a posthoc analysis indicated that Welsh JHOs in the first study reported more stress than English JHOs ($p < 0.01$) and Turkish JHOs ($p < 0.05$) in the second study. For 'problems with nurses', a posthoc analysis didn't show any significant differences but numerically, Turkish JHOs in the first and second studies reported greater stress than Welsh junior house officers in the first study. Similarly, 'lack of time for social life' didn't show any significant differences between the groups but numerically, Turkish JHOs in the first study reported more stress than their Turkish counterparts in the second study and Welsh JHOs in the first study. Post hoc analysis also didn't show any significant differences for 'not knowing what type of job performance is expected', but numerically, Turkish JHOs reported greater stress than the Welsh JHOs in the first study.(see Table 2.18 in Appendix 2)

c) No difference between countries

Seventeen items out of 31 (55 %) did not show any significant differences between two countries (see Table 2.19 in Appendix 2) .

3.4.3.4. The summary of individual items analyses

1. The analyses of frequency of stress related to individual items indicated that problems related to *the physical environment* and *interpersonal* issues (such as dealing with friends as patients, lack of support from senior staff, lack of teaching, problems with nurses) were reliably greater in Turkey whereas *work overload, insecurity about their knowledge, dealing with "difficult " patient and dealing with death and dying,* showed reliably greater effects in the UK.

2. Similar results were also found in terms of intensity of stress. The items related to the *physical environment and interpersonal* problems (e.g. criticism by a supervisor, problems with other JHOs, and lack of teaching) showed greater effects in Turkey, whilst the problems related to the *work overload, insecurity about their knowledge, dealing with "difficult" patients and interruptions of the work by other people's phone calls,* were greater in the UK.

3. The analyses of intensity when controlling frequency showed that *interpersonal* problems , *dealing with death and dying,* and *dealing with new technology* were reliably greater in Turkey whereas the *work overload* and *dealing with " difficult " patients* reliably led to more intense stress in the UK.

3.4.4. OVERALL DISCUSSION OF THE COMBINED DATA

The analyses of the combined data identified a number of robust differences between countries in both factor scores and individual items but not in overall scores. Use of the factors to categorise items was found to be inappropriate, as items within a factor often showed inconsistencies in the extent of the country differences. Items were, therefore, grouped on the basis of conceptual categories which provided the following profiles of robust differences between the countries.

In general, items related to interpersonal problems and the physical working environment showed reliably greater effects in terms of both frequency and intensity in Turkish JHOs. When intensity was examined with frequency as a covariate, the robust effect of interpersonal problems still held up whereas the effect of the physical work environment disappeared. The items related to interpersonal problems can be considered as either related to lack of support such as 'lack of respect that you deserve from the general public', 'lack of an opportunity to talk openly with other personnel about problems on the unit', or to problems of social interaction such as 'problems with senior doctors' and 'dealing with your relatives as patients'.
In general, the results showed that work overload, dealing with 'difficult ' patients and insecurity about their knowledge were greater both in terms of frequency and intensity in British samples. The robust effects on intensity of stress for the work overload and dealing with ' difficult ' patients still held up when frequency of stress was covaried whereas the effect of insecurity about their knowledge disappeared.
The results also showed that 'dealing with death and dying' and 'dealing with new technology' were more frequent problems for British JHOs whereas the same problems produced more intense stress when frequency was covaried in Turkish JHOs.

These differences can be accounted for by alternative explanations. Differences between the two countries in the quality of the working environment could reflect different resources available in the two countries. The items related to lack of teaching and lack of career advice, could reflect the training differences between two countries described in Chapter 2. The items related to lack of support could reflect the important values of collectivist countries, namely getting support from family, friends etc. As Turkey is defined as a collectivist country (see Chapter 1), it is understandable why the items related to lack of support showed reliably greater effects in Turkey than the UK. In addition, there are big economic problems and political uncertainty in Turkey. In such stressful situations, Turkish JHOs might need more support from their colleagues than their British counterparts.

Work overload produced reliably greater stress in the UK and this may reflect differences in working practices in the two countries. For example, as mentioned in Chapter 2, Turkish JHOs do not work an on - call rota .

At this stage of the research, it was of major interest to determine whether these differences between countries were specific to JHOs. In order to investigate whether these differences generalise to others in the medical profession, the third study was carried out with senior house officers. To examine whether the differences between countries generalise to others starting their careers, the fourth study was carried out among newly graduated teachers. The third and fourth studies are reported in the Chapters 4 and 5.

CHAPTER 4: An experimental investigation of stress in senior house officers in Turkey and England

4.1. INTRODUCTION

In the first and second studies selective differences between the countries emerged in terms of identification of the frequency and intensity of stress sources. The analysis of the combined data showed that the items related to the physical work environment and interpersonal problems (lack of support; others) were reliably greater in Turkey whereas the items related to work overload and dealing with " difficult " patients were consistently greater the UK. In this section of the thesis, investigations were conducted to determine whether the selective differences between countries found in the previous studies were apparent in other jobs. Senior house officers (SHOs) and newly graduated teachers were, therefore, investigated in the third and fourth study. In this chapter the results of the third study which examined frequency and intensity of stress among senior house officers are presented. The reason why the SHOs were chosen was that they are also health professionals, but their status and responsibilities are different from JHOs. Unlike JHOs, SHOs are fully registered medical practitioners working in hospitals who are undergoing specialist vocational training.

There are some differences between the Turkish and English procedures for becoming SHOs , choosing their specialities and their training duration as SHOs. Unlike the English system, Turkish SHOs have to pass an examination to become SHOs, and their subsequent specialism depends mainly on their exam result not their choice. In Turkey, SHOs have to work at least four years as SHOs whereas English SHOs have to work a minimum of only two and a half years as SHOs.

If the crucial factor in the previous studies was being a doctor then one would expect similar effects to be apparent for SHOs. On the other hand, if

the crucial factor in the previous studies was stage of the career then one would expect different effects to be apparent for SHOs.

On the basis of the results of the previous studies it was possible to make a number of specific predictions:

1. There would be no differences between the countries in the overall frequency and intensity of stress scores.
2. There would be selective differences between the countries with regard to individual items. Specifically, on the basis of the JHOs' results, it was predicted that Turkish SHOs would complain more about interpersonal problems and the physical environment whilst English SHOs would find work overload and dealing with " difficult " patients more stressful.
3. There would be relatively few interactions between country and contextual factors such as gender, types of hospital unit and time working as a SHO.
4. There would be some differences between reports of exposure to stressors and intensity of job related stress.
5. There would be no differences between the two countries in terms of the perceived stress scale.

4. 2. METHOD

4.2.1. Design

A cross-sectional design was used. The study used the occupational stress questionnaire described earlier and also measured demographic factors, and the perceived subjective stress of Turkish and English SHOs.

4.2.2. Subjects

More than 100 questionnaires were distributed to the subjects through the personnel service in both countries. Ninety eight completed questionnaires

were returned by English SHOs , whereas 80 questionnaires were sent back by Turkish SHOs. Eighty SHOs from University hospital in Turkey, where the data from the first and second studies were also collected, and 98 English SHOs, who were working in different hospitals in the South West, participated in the third study (see Table 4.2.1 for more details).

Table 4.2.1. Demographic data { N (England)=98, N(Turkey)=80 }

Variable		ENGLAND		TURKEY	
		N	%	N	%
Gender	Female	36	37	13	16
	Male	62	63	67	84
Age	23-29 years old	70	71	69	86
	30-35 years old	22	23	11	14
	more than 35 years old	6	6	0	0
	Mean	28.88		27.67	
	sd.	4.37		5.27	
	range (min-max.)	24-52		23-35	
Marital Status	Single	61	62	49	61
	Married	35	36	31	39
	Others	2	2	0	0
Types of hospital unit	Medicine	42	43	42	52
	Surgery	56	57	30	38
	No response	0	0	8	10
Time working as SHOs	Less than 1 year	17	18	24	30
	1 year	14	15	11	14
	2 years	32	34	22	27
	3 years	15	16	8	10
	4 years	10	11	12	15
	5 years	6	6	3	4
	No response	4	4	0	0

4.2.3. Measurements

The questionnaire distributed to JHOs in the first and second study was given to SHOs in the third study with some slight differences. The questionnaire used in the first and second study included 31 items, whereas the questionnaire in this study consisted of 27 items (see Appendix B). Some items such as 'problems with other JHOs' were not asked in this study because they were not relevant to the present sample.

In addition, as in the second study, the perceived stress scale (PSS) , which was described in the previous chapter, was given to SHOs. The questionnaire also included questions about demographic factors such as age, sex, marital status etc. As in the first and second studies, the questionnaires were translated from English to Turkish and back translated by three Turkish university students who were doing a PhD in the University of Bristol.

4.3. RESULTS

As in the first and second studies, initially, a Levene's test of equality of variance was considered ; if this was not significant then the statistics from the analyses of variance were examined. However, if the variances were not equal, statistics from the Brown - Forsythe test were considered.

4.3.1. Overall stress scores (Frequency, intensity and intensity covarying frequency)

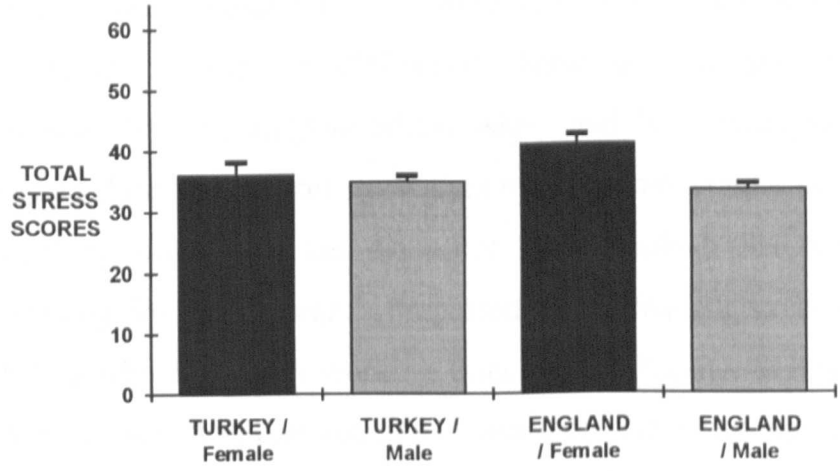
4.3.1.1. Country effect

The results indicated that the main effect of country was not significant for either the frequency (F=0.20, df=1, 149) or the intensity scores (F=0.25, df= 1, 134). Similarly, there was no main effect of country for intensity covarying frequency (F=0.17, df= 1, 121).

4.3.1.2. Gender effect

No main effect of gender nor country x gender interactions were found for either frequency { F(main effect of gender)=0.01, df=1, 147; F (country x gender interaction)=1.85, df=1, 147 }, or intensity scores { F(main effect of gender)= 1.46, df=1 , 132 ; F(country x gender interaction)= 3.89, df=1, 132}. The main effect of gender (F=8.72, df= 1, 119 , $p < 0.01$) and the country x gender interaction (F=4.64, df=1,119, $p < 0.05$) were significant for the total intensity scores when controlling for frequency. Although post-hoc analyses did not show any significant differences between the four groups the mean scores revealed that the English female senior house officers (mean= 40.89, se=1.57) had higher stress scores than the English males (mean=33.17, se= 1.06) and Turkish female (mean= 36.02, se=2.12), and male (mean=34.82, se=1.00) SHOs (see Figure 4.3.1.1).

FIGURE 4.3.1.1. INTERACTION BETWEEN COUNTRY AND GENDER FOR THE TOTAL INTENSITY SCORES WHEN CONTROLLING TOTAL FREQUENCY SCORES
(Scores are the adjusted means with s.e.s shown as bars)



4.3.1.3. Effects of type of hospital unit

The results showed that there was no main effects of type of hospital unit for either frequency (F=0.33, df=1,140) or intensity scores (F= 0.09, df=1,126). Similarly, no main effect of type of hospital unit was found for intensity when controlling frequency (F=0.73, df=1,113). No interaction between country and type of hospital unit was found for either frequency (F=2.27, df=1, 140), intensity (F=1.46, df=1,126) or intensity controlling frequency (F=0.55, df=1,113).

4.3.1.4. Effects of time working as a SHO

The results showed that there was no main effect of time working as a SHO with regard to either frequency (F=0.58, df=5,136) or intensity (F=0.23, df=5,123). Similarly, neither the main effect of time working as a SHO (F=0.62, df=5,110) nor the interaction between country and time working as a SHO (F=0.58, df=5, 110) were significant for intensity when controlling frequency. In contrast, an interaction between country and duration working as a SHO was found for the frequency scores (F=4.21, df=5,136, $p < 0.01$) and intensity scores (F=2.56, df=5,123 , $p < 0.05$). A Tukey test did not show any significant differences between the six groups. However, numerically, the English SHOs who had been working for two years reported more frequent stress than their Turkish counterparts who had been working two years. On the other hand, Turkish SHOs who had been working for three years reported more frequent stress than the English SHOs who had been working three years. Turkish SHOs who had been working less than one year, three years, or five years reported more intense stress than their English colleagues who had been working for the same period as them. In contrast, English SHOs who had been working for either two or four years as a SHO had more intense stress than their Turkish equivalents.

FIGURE 4.3.1.2. INTERACTION BETWEEN COUNTRY AND TIME WORKING AS A SHO , FOR THE MEAN TOTAL FREQUENCY STRESS SCORES
(s.d.s. shown as bars)

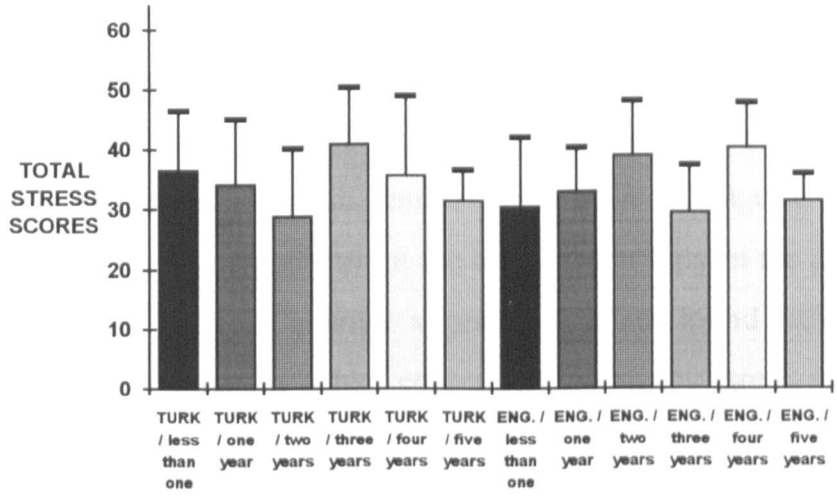
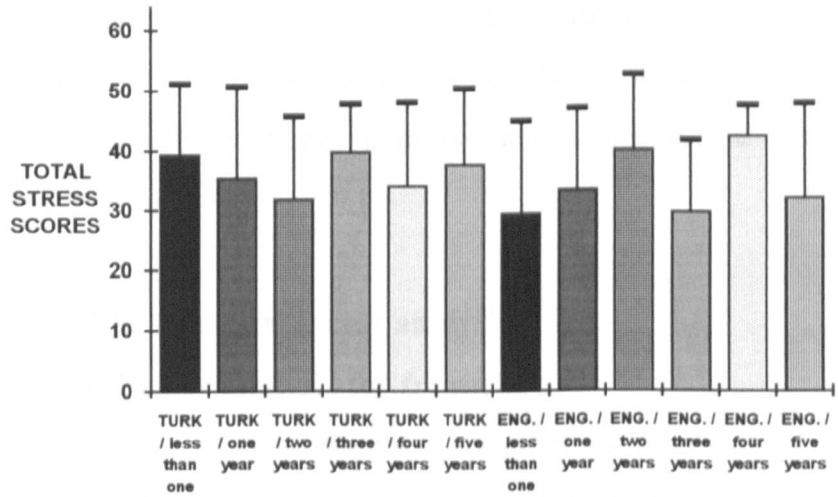


FIGURE 4.3.1.3. INTERACTION BETWEEN COUNTRY AND TIME WORKING AS A SHO , FOR THE MEAN TOTAL INTENSITY STRESS SCORES
(s.d.s shown as bars)



4.3.1.5. Summary of the total stress scores

1. The main effect of country was not significant for either frequency or intensity of stress. Similarly, overall differences between England and Turkey were not found for intensity when controlling frequency. It is important to mention here that this result is similar to the JHOs results

(analysis of combined data) which also didn't show any significant overall differences between the two countries for either frequency or intensity of stress.

2. Main effects of gender and country x gender interactions were significant only for intensity when controlling frequency. The English female senior house officers reported more intense stress than their English male counterparts and Turkish female and male colleagues. A main effect of gender was also significant in the analysis intensity in the JHOs data, but the interaction between country x gender was not found either for frequency, intensity or intensity when controlling frequency stress score in the JHOs combined data.

3. Main effects of type of hospital unit and interactions between country x types of hospital unit were not significant in any of the analyses. Main effects of type of hospital unit and country x type of hospital unit interactions were also not found in terms of frequency, intensity, and intensity when controlling frequency stress score in the JHO combined data.

4. An interaction between country and time working as a SHO was found for the frequency and intensity scores. These interactions reflected a complex profile of effects rather than linear changes in the differences between countries over time.

4.3.2. The results of factor analysis

4.3.2.1. Factor analysis for frequency

When factor analysis was carried out for the frequency scores of the English SHOs, 9 factors emerged accounting for about 68 % of the variance. The first factor accounted for about 30 % of the variance (see Table 3.1 in Appendix 3). Similarly, 9 factors also emerged accounting for about 70 % of the variance for the Turkish SHOs with the first factor accounting for about 27 % of the variance (see Table 3.2 in Appendix 3). Factor analysis was also carried out for the combined English and Turkish data. 8 factors

appeared accounting for about 63 % of the variance, with the first factor accounting for about 27 % of the variance (see Table 4.3.2.1).

TABLE 4.3.2.1: Factor analysis of frequency of stress data for Turkish and English senior house officers

FACTOR 1: (27 % of variance) Work overload	**Loadings**
Dealing with long working hours	0.70
Work overload	0.69
Lack of time for social life	0.69
Not enough time to complete all of my duties	0.64
Not having enough staff to adequately provide necessary services	0.61
Work interferes with domestic life	0.56
FACTOR 2: (8 % of variance) Dealing with patients	
Dealing with death and dying	0.79
Dealing with patients' relatives	0.62
Feeling helpless in the case of a patient who fails to improve	0.61
FACTOR 3: (6 % of variance) Lack of support and good working conditions	0.70
Lack of an opportunity to share experiences with other personnel on the unit	0.63
Not knowing what type of job performance is expected	0.57
Lack of a good physical work environments	0.55
Lack of respect that you deserve from the general public	
FACTOR 4: (5 % of variance) Insecurity about their knowledge	
Fear of making a mistake about treatment	0.73
Awareness of lack of knowledge	0.73
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	0.55
FACTOR 5: (5 % of variance) Dealing with friends / relatives as a patients	
Dealing with your friends as patients	0.83
Dealing with your relatives as patients	0.78
FACTOR 6: (4 % of variance) Technology	
Dealing with new technology	0.82
FACTOR 7: (4 % of variance) Senior doctors	
Problems with senior doctors	0.79
FACTOR 8: (4 % of variance) Lack of teaching	
Lack of teaching	0.76

This factor analysis reveals some similarities to the JHO data . In both analyses the first factor contained items related to 'work overload' and accounted for about 20 % of the variance.

4.3.2.2. Factor analysis of intensity data

Six factors emerged accounting for about 69 % of the variance in the English sample (see Table 3.3 in Appendix 3). The first factor accounted for

about 40 % of the variance. In the Turkish data eight factors were found which accounted for approximately 70 % of the variance (see Table 3.4 in Appendix 3) with the first factor accounting for about 31 % of the variance. Factor analysis was carried out for the combined English and Turkish SHOs data . Seven factors appeared accounting for about 66 % of the variance (see Table 4.3.2.2) with the first factor accounting for about 34 % of the variance.

TABLE 4.3.2.2: Factor analysis of intensity of stress data for Turkish and English senior house officers

FACTOR 1: (34 % of variance) Work overload and lack of a good working conditions	**Loadings**
Dealing with long working hours	0.76
Work overload	0.70
Lack of time for social life	0.70
Not enough time to complete all of my duties	0.68
Lack of a good physical work environments	0.67
Not having enough staff to adequately provide necessary services	0.65
Work interferes with domestic life	0.61
FACTOR 2: (7 % of variance) Dealing with patient /patients' relatives and dealing with death and dying	
Dealing with death and dying	0.78
Caring for the emotional needs of patients	0.70
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	0.67
Feeling helpless in the case of a patient who fails to improve	0.64
Dealing with 'difficult ' patients	0.61
Dealing with patients relatives	0.55
FACTOR 3: (6 % of variance) Problems with staff	
Problems with nurses	0.69
Not knowing what type of job performance is expected	0.67
Problems with senior doctors	0.53
FACTOR 4: (6 % of variance) Insecurity about their knowledge	
Awareness of lack of knowledge	0.82
Fear of making a mistake about treatment	0.72
FACTOR 5: (5 % of variance) Lack of support	
Lack of an opportunity to share experiences with other personnel on the unit	0.69
Lack of teaching	0.67
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.61
FACTOR 6: (4 % of variance) Dealing with friends / relatives as a patient	
Dealing with your relatives as patients	0.89
Dealing with your friends as patients	0.85
FACTOR 7: (4 % of variance)	
Dealing with new technology	0.70
Number of beds responsible for	0.57

This analysis produced a different outcome to that found for the JHOs. The major factor to emerge from the JHO data was related to 'lack of support / problems with other staff', whereas in the SHO sample the first factor reflected 'work overload and lack of good working conditions'.

4.3.2.3. Analysis of variance for factor scores from the combined Turkish and English data

4.3.2.3.1. Factors showing a country effect for frequency

Four factors out of eight showed a difference between the countries in the ratings frequency (see Table 4.3.2.3).

The factor 3 score, reflecting *'lack of social support and good working conditions'* was higher for the Turkish SHOs than the English. Similarly, the factor 5 score *'dealing with your friends / relatives as patiens'* was higher in the Turkish sample ($p < 0.01$).

English SHOs had higher scores for factor 4 *' insecurity about their knowledge '* ($p < 0.01$) and factor 6 , *' dealing with new technology '* ($p < 0.05$).

Table 4.3.2.3: The factors which showed country effects for frequency of stress

FACTORS	TURKEY		ENGLAND		F's / d.f.s. / P's
	Mean	Sd.	Mean	Sd.	
FACTOR 3 *	1.35	0.58	1.00	0.49	17.48 / 1, 150 / P < 0.001
FACTOR 4 *	0.91	0.46	1.26	0.49	23.17 / 1,173 / P < 0.001
FACTOR 5 *	0.89	0.60	0.40	0.45	38.43 / 1,174 / p < 0.001
FACTOR 6	0.82	0.77	1.07	0.63	5.41 / 1,149 / p < 0.05

*= Country effect hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer

It seems that some of these results are similar to the JHO findings. For example, considering the frequency stress score, 'dealing with your friends / relatives as patients' was also found to be stressful in Turkish JHOs.

Similarly, the factors related to lack of social interaction and lack of advice were also reported to be more stressful by Turkish JHOs. In contrast, 'dealing with new technology' was not rated more stressful by the English JHOs.

4.3.2.3.2. Factors showing a country effect for intensity

Two out of seven factors showed significant differences between the countries with regard to intensity (see Table 4.3.2.4). English SHOs rated factor 4, *'insecurity about their knowledge'* , more stressful than their Turkish counterparts ($p < 0.01$).

Factor 6, *'dealing with friends / relatives as patients'* , was reported as more stressful by Turkish SHOs than English SHOs ($p < 0.01$).

Table 4.3.2.4: The factors which showed country effects for intensity of stress

FACTORS				
TURKEY		**ENGLAND**		**F's / d.f.s. / P's**
Mean	**Sd.**	**Mean**	**Sd.**	
FACTOR 4 *				
1.18	0.67	1.80	0.71	33.15 / 1, 166 / $p < 0.001$
FACTOR 6				
0.99	0.77	0.57	0.75	11.63 / 1, 152 / $p < 0.001$

***= Country effect hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.**

These results also showed some similarities with JHO data. Like the English SHOs results, British JHOs also found the factor 'insecurity about their knowledge' more stressful than their Turkish counterparts. On the other hand, unlike the SHOs results, the factor 'dealing with friends / relatives as patients' didn't show any significant differences between two countries in JHO data.

4.3.2.3.3. Factors showing a country effect for intensity when controlling frequency

One factor showed a difference between the countries for the intensity scores when controlling frequency (see Table 4.3.2.5), with *'Insecurity about their knowledge '* being rated more stressful by English SHOs than their Turkish colleagues.

Table 4.3.2.5: The factor which showed a country effect in terms of intensity when controlling frequency

FACTORS	TURKEY		ENGLAND		F's / d.f.s. / P's
	Mean	Se.	Mean	Se.	
FACTOR 4 *	1.38	0.06	1.65	0.05	10.31 / 1,164 / $p < 0.01$

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

Unlike the SHO results, 'insecurity about their knowledge' didn't show any significant differences between the two countries in JHO data.

4.3.2.4. Interactions between country and contextual factors (gender, types of hospital unit, and time working as a senior house officer) in the analyses of the total factors scores

4.3.2.4.1. Interactions between country and gender

The results showed that there was no significant interaction between country and gender for either frequency or intensity when controlling frequency for any of the factor scores. In contrast, an interaction was only found between country and gender for intensity for factor 2, *'dealing with patients/ patients' relatives and dealing with death and dying '* ($F=5.05$, $df=1,20$, $p < 0.05$). A Tukey test indicated that English female senior house officers (mean=1.65, sd=0.45) showed more stress than the English (mean=1.25, sd=0.60) and Turkish (mean=1.34, sd=0.55) males ($p< 0.05$ and 0.01).

4.3.2.4.2. Interactions between country and type of hospital unit

The results showed there was an interaction between country and type of hospital unit for frequency for factor 1, *'work overload'* (F=6.93, df=1,165, $p < 0.01$). Turkish SHOs on the surgery unit (mean=1.85, sd=0.54) and English SHOs on the medicine unit (mean=1.88, sd=0.57) reported more frequent stress than Turkish SHOs on the medicine unit (mean=1.65, sd=0.67) and English SHOs on the surgery unit (mean=1.57, sd=0.64). Similarly, an interaction was found between country and type of hospital unit for intensity for factor 1, *' work overload and lack of good working conditions '* (F=6.17, df=1,151, $p < 0.05$). Turkish SHOs on the surgery unit (mean=1.91, sd=0.53) and English SHOs on the medicine unit (mean=1.95, sd=0.56) had higher scores than Turkish SHOs on the medicine unit (mean=1.72, sd=0.66) and English SHOs on the surgery unit (mean=1.54, sd=0.69) . There were no interactions between country and type of hospital unit for intensity when controlling frequency.

4.3.2.4.3. Interactions between country and time working as a senior house officer

The results showed that there was an interaction between country and time working as a senior house officer for frequency for factor 1 *'work overload'* (F=3.55, df=5,160, $p < 0.01$), factor 5 *'insecurity about their knowledge '* (F=4.17, df=5,160 , $p < 0.01$) and factor 6 *' dealing with new technology'* (F=3.21, df=5,159, $p < 0.01$). Considering factor 1, a Tukey test indicated that English SHOs who had been working for four years as a SHO reported more frequent stress (mean=2.13, sd=0.44), than Turkish SHOs who had been working two years as a SHO (mean=1.35, sd=0.67) ($p < 0.05$). Regarding factor 5, Turkish SHOs who had been working three (mean=1.31, sd=0.46) and five years as a SHO (mean= 1.83, sd=0.29), had higher stress scores than Turkish SHOs who had been working less than one year (mean=0.47, sd= 0.48) , one year (mean =0.39 , sd= 0.53), two years

(mean = 0.44, sd= 0.47), three years (mean= 0.27, sd= 0.37), four years (mean=0.50, sd= 0.47), or five years (mean=0.25, sd =0.42) as a SHO (all p's < 0.05). The results also showed that English SHOs who had been working four years a SHO (mean=1.60, sd= 0.97) had higher stress score than Turkish SHOs who had been working one year as a SHO (mean= 0.82, sd=0.75 ; p < 0.05). An interaction between country and time as a working SHO was found for intensity for factor 1 ' *work overload and lack of good working conditions* ' (F=2.49, df=5,150, p < 0.05). Turkish SHOs who had been working three years as a SHO (mean=2.02, sd =0.61) and English SHOs who had been working two years (mean=2.05, sd= 0.59) and four years (mean=2.10, sd= 0.33) showed more stress than Turkish SHOs who had been working two years (mean=1.59, sd= 0.65) and English SHOs who had been working three years (mean=1.51, sd= 0.59). However, there were no significant interactions between country and time working as a SHO for intensity when controlling frequency.

4.3.2.5. Summary of analyses of factor scores

1. Considering frequency, Turkish SHOs had higher scores for two factors *"lack of social support and good working conditions "* , and *"dealing with your friends and relatives as patients "* , English SHOs also rated two factors *" insecurity about their knowledge "* and *" dealing with new technology"* as more frequent sources of stress than their Turkish colleagues. Interactions between country and some of the contextual factors (types of hospital unit and time working as a SHO) were found for some of the factors, namely ' *work overload* ', '*insecurity about their knowledge* ', and '*dealing with new technology* '.

When these results were compared with the JHOs' results it was found that the same kind of factors were more frequent in Turkish JHOs as SHOs whilst different factors were more frequent in British JHOs and SHOs. For example, both Turkish JHOs and SHOs reported factors related to 'dealing with your friends and relatives as patients' and 'lack of support'. On the

other hand, unlike English SHOs, British JHOs didn't consider 'insecurity about their knowledge' and 'dealing with new technology' as major problems.

2. Regarding intensity, Turkish SHOs rated one factor *'dealing with your friends and relatives as patients'* as more stressful than their English counterparts whereas English SHOs had higher scores for the factor *'insecurity about their knowledge'*. Considering intensity when controlling frequency, the factor *'insecurity about their knowledge'* was still more stressful for English SHOs. Interactions between country and contextual factors (gender, types of hospital unit and time working as a SHO) were found for intensity for some of the factors, *' dealing with patients / patients' relatives and dealing with death and dying '*, *'work overload and lack of good working conditions '*. However, there were no interactions between country and contextual factors for intensity when controlling frequency.

When these results were compared to the JHOs' results for intensity, it was found that the factor which was called " insecurity about their knowledge " was also rated as more intense by British JHOs. Unlike the Turkish SHOs, Turkish JHOs found the factor " lack of support / advice and problems with other staff " more stressful.

4.3.3. Specific types of stress - Differences in frequency and intensity of individual items

4.3.3.1. Identification of frequency of stress sources

Nine items out of 27 (33%) were more frequently reported by English senior house officers than their Turkish colleagues. On the other hand, 7 items out of 27 (26%) were more frequent for Turkish senior house officers than English SHOs. However, when other factors were considered (gender, types of hospital unit and time working as a SHO), the country effect held up for only 3 items for English senior house officers and 7 items for the

Turkish sample. Eleven items out of 27 (41%) did not show any significant differences between Turkey and England (see Table 3.5 in Appendix 3). The items which showed significant differences between the two countries, are shown in Tables 4.3.3.1 and 4.3.3.2 .

The items producing more frequent stress in England were not just very frequent items. Items such as *'dealing with new technology'* or *'problems with nurses'* were rated as " occasional " in England but often as "never " in Turkey. Similar effects occurred for those rated more frequent in Turkey. Items such as *'dealing with your relatives as patients'* or *'dealing with your friends as patients'* were rated as " occasional" in Turkey but there were often " never " in England.

Table 4.3.3.1. The items which were identified as more frequent sources of stress by English SHOs

ITEMS Never	Occasionally	Frequently	Very Frequently	**F's / d.f.s. / P's Mean / sd.**
Dealing with long working hours				**6.46 / 1,143 / p< 0.05**
England- 3	26	42	29	1.98 / 0.83
Turkey- 39	48	12	1	1.60 / 1.11
Work interferes with domestic life *				**13.82/1,176 / p<0.001**
England- 6	30	37	27	1.84 / 0.89
Turkey- 19	44	24	13	1.33 / 0.94
Interruptions of work by other people's phone calls				**7.92 / 1,162 / p<0.01**
England- 5	28	43	24	1.87 / 0.85
Turkey- 11	44	28	17	1.49 / 0.90
Caring for the emotional needs of patients				**10.87 /1, 171 / p<0.01**
England- 6	51	37	6	1.43 / 0.70
Turkey- 15	63	19	3	1.09 / 0.66
Fear of making mistake about treatment *				**13.05/1,165 / p<0.001**
England- 5	58	32	5	1.37 / 0.66
Turkey- 17	70	8	5	1.00 / 0.68
Problems with nurses				**7.33/1,174 / p< 0.01**
England- 7	70	19	4	1.20 / 0.62
Turkey- 30	52	14	4	0.91 / 0.77
Awareness of lack of knowledge / skills				**17.85 /1,156 /p<0.001**
England- 3	57	38	2	1.39 / 0.59
Turkey- 4	56	34	6	0.99 / 0.66
Dealing with new technology				**5.41 / 1,149 / p<0.05**
England- 14	66	18	2	1.07 / 0.63
Turkey- 37	46	14	3	0.82 / 0.77
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients *				**8.71 / 1,174 / p<0.01**
England- 14	71	13	2	1.04 / 0.59
Turkey- 39	48	12	1	0.75 / 0.71

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

Table 4.3.3.2. The items which were identified as more frequent sources of stress by Turkish SHOs

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. / P's Mean / sd.
Not having enough staff to adequately provide necessary services *					**11.37/1,176/ p<0.001**
Turkey-	3	20	46	31	2.06 / 0.79
England-	1	43	43	13	1.68 / 0.71
Lack of a good physical work environments *					**9.82 / 1,160 / p<0.01**
Turkey-	8	38	38	16	1.61 / 0.86
England-	13	58	22	7	1.22 / 0.77
Number of beds responsible for *					**15.93/1,152/ p<0.001**
Turkey-	10	47	28	15	1.48 / 0.88
England-	24	58	14	4	0.98 / 0.73
Lack of respect that you deserve from the general public *					**11.14 /1,139 / p<0.01**
Turkey-	22	37	32	9	1.27 / 0.92
England-	28	61	9	2	0.85 / 0.67
Dealing with your relatives as patients *					**40.12/ 1,137/p<0.001**
Turkey-	23	52	21	4	1.06 / 0.77
England-	62	35	3	0	0.41 / 0.55
Lack of an opportunity to share experiences with other personnel on the unit *					**18.73/1,160 /p<0.001**
Turkey-	14	56	27	3	1.18 / 0.70
England-	38	51	11	0	0.74 / 0.65
Dealing with your friends as patients *					**12.38/1,174/ p<0.001**
Turkey-	39	49	10	2	0.71 / 0.65
England-	63	36	0	1	0.39 / 0.55

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

4.3.3.2. Identification of intensity of stress sources

Fewer items showed differences between England and Turkey for the intensity of stress scores. Five items out of 27 (19%) were reported to produce greater stress for English senior house officers whereas Turkish senior house officers rated only 4 items out of 27 (15%) as producing more stress. On the other hand, 18 items out 27 (66%) did not show any significant differences between England and Turkey (see Table 3.6 in Appendix 3). When other factors were considered (gender, types of hospital unit and time working as a senior house officer), the country effect held up for 3 items for the both English and Turkish samples. The items

which showed significant differences between England and Turkey are shown in Tables 4.3.3.3 and 4.3.3.4.

Once again, the magnitude of the rating does not determine whether there is a difference. For example, *'dealing with your friends as patients'* was rated as producing "little stress" in Turkey but the same item was often rated as producing "no stress" in England. Similarly, the item *'lack of an opportunity to talk openly with other unit personnel about problems on the unit'* led to " little stress " in England but the same item was often restricted to the ' no stress ' end of the scale for the Turkish sample.

Table 4.3.3.3. The items which were rated as producing more intense stress for English SHOs

ITEMS	No stress	Little stress	Moderate stress	Great stress	**F's / d.f.s. / P's Mean / sd.**
Dealing with long working hours					**4.48 /1,127 / p<0.05**
England-	3	20	47	30	2.03 / 0.79
Turkey-	18	23	29	30	1.71 / 1.09
Work interferes with domestic life					**6.80 /1,169 / p<0.01**
England-	7	29	39	25	1.81 / 0.90
Turkey-	17	37	30	16	1.44 / 0.96
Awareness of lack of knowledge / skills *					**29.25/1,169 /p<0.001**
England-	4	29	48	19	1.81 / 0.79
Turkey-	15	59	21	5	1.17 / 0.74
Fear of making a mistake about treatment *					**24.32/1,166 /p<0.001**
England-	2	35	45	18	1.79 / 0.76
Turkey-	18	53	23	6	1.19 / 0.81
Problems with nurses *					**13.60/1,168 /p<0.001**
England-	9	53	29	9	1.37 / 0.77
Turkey-	39	39	15	7	0.89 / 0.90

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

Table 4.3.3.4. The items which were rated as producing more intense stress for Turkish SHOs

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. / P's Mean / sd.
Number of beds responsible for					**9.23 / 1,143 /p<0.01**
Turkey-	14	40	33	13	1.47 / 0.90
England-	24	48	26	2	1.06 / 0.77
Lack of respect that you deserve from the general public *					**11.38 /1,134/p<0.001**
Turkey-	27	39	24	10	1.16 / 0.94
England-	42	47	9	2	0.72 / 0.72
Dealing with your relatives as patients*					**8.47/1,156/p<0.01**
Turkey-	29	41	23	7	0.89 / 0.81
England-	57	30	7	6	0.53 / 0.75
Dealing with your friends as patients *					**11.23/1,157 /p<0.001**
Turkey-	34	47	15	4	1.08 / 0.89
England-	60	30	8	2	0.62 / 0.86

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

4.3.3.3. Intensity of stress controlling frequency

There were only a few items which showed significant differences between England and Turkey. Five items out of 27 (18%) were rated more stressful by English senior house officers than Turkish ones whereas only 1 item out of 27 (4%) was reported more stressful by Turkish SHOs. However, when other factors were considered (gender, types of hospital unit, and time working as a SHO), the country effect held up for only 3 items for the English sample. On the other hand , 21 items out of 27 (78 %) did not show any significant differences between England and Turkey (see Table 3.7 in Appendix 3). The items which showed significant differences between the two countries, are shown in Tables 4.3.3.5 and 4.3.3.6.

Table 4.3.3.5. The items which were rated producing intense stress for English SHOs when controlling frequency

ITEMS	ENGLAND		TURKEY		F's / d.f.s. /P's
	Mean	se.	Mean	se.	
Dealing with " difficult " patients	1.74	0.07	1.46	0.08	**7.27 / 1,168 / p<0.01**
Awareness of lack of knowledge / skills *	1.67	0.07	1.37	0.08	**8.54 /1,166 / p<0.01**
Not having enough staff to adequately provide necessary services *	1.97	0.06	1.67	0.07	**9.86 / 1,167/ p<0.01**
Problems with nurses	1.26	0.06	1.03	0.07	**5.70 / 1,167/ p<0.05**
Fear of making a mistake about treatment *	1.68	0.06	1.33	0.007	**12.42 /1,165/p<0.001**

*=Country effects hold up when other factors considered which were gender, types of hospital unit and time working as a senior house officer.

Table 4.3.3.6. The item which led to more intense stress in Turkish SHOs when controlling frequency

ITEMS	TURKEY		ENGLAND		F's / d.f.s. /P's
	Mean	se.	Mean	se.	
Dealing with patient's relatives	1.51	0.07	1.26	0.08	**5.18/1,167/p<0.01**

4.3.3.4. The summary of individual items

1. 'Dealing with long working hours', 'work interferes with domestic life' and 'interruptions of work by other people's phone calls' were rated more stressful by English senior house officers than Turkish SHOs. In contrast, Turkish senior house officers reported the following items as being more frequent sources of stress : 'not having enough staff to adequately provide necessary services', 'lack of a good physical work environments', 'number of beds responsible for' and 'lack of respect that you deserve from the general public'.

2. 'Dealing with long working hours ', 'work interferes with domestic life', 'awareness of lack of knowledge / skills', 'fear of making a mistake about

treatment' and 'problems with nurses' were rated more stressful by English SHOs than Turkish ones, whereas 'number of beds responsible for', 'dealing with your relatives as patients', 'lack of respect that you deserve from the general public' and 'dealing with your friends as patients' were reported to be more stressful by Turkish SHOs.

3. Fewer items showed country differences for intensity when controlling for frequency. Only one item 'dealing with patient's relatives', was rated more stressful by Turkish SHOs whilst 'dealing with " difficult "patients', 'awareness of lack of knowledge / skills', 'not having enough staff to adequately provide necessary services', 'problems with nurses' and 'fear of making a mistake about treatment' produced greater stress in English SHOs.

4.3.4. Interactions between country and modifying factors

4.3.4.1. Interactions between country and gender in the analyses of individual items

4.3.4.1. 1. Frequency

The results indicated that there were interactions between country and gender for frequency for three items, 'work overload', 'lack of an opportunity to share experiences with other personnel on the unit', and 'caring for the emotional needs of patients' (see Table 4.3.4.1). A Tukey test indicated that for 'lack of an opportunity to share experiences with other personnel on the unit', Turkish male SHOs reported more stress than English male SHOs ($p < 0.01$). In contrast, English female and male SHOs rated 'caring for the emotional needs of patients' as more stressful than their Turkish female and male counterparts ($p < 0.01$). For 'work overload' a Tukey test did not show any significant differences between the four groups.

Table 4.3.4.1. Interactions between country and gender in terms of frequency

ITEMS	TURKEY		ENGLAND		
	Female	**Male**	**Female**	**Male**	
	Mean	Mean	Mean	Mean	**F's / d.f.s. / P's**
	Sd.	Sd.	Sd.	Sd.	
Work overload					
	1.08	1.72	1.64	1.62	**5.20 / 1,47 / p<0.05**
	0.67	0.90	0.83	0.78	
Lack of an opportunity to share experiences with other personnel on the unit					
	1.00	1.21	0.94	0.61	**4.72 / 1,172 / p<0.05**
	0.74	0.69	0.67	0.61	
Caring for the emotional needs of patients					
	0.75	1.15	1.58	1.34	**6.35 / 1,173 / p<0.05**
	0.45	0.68	0.73	0.68	

4.3.4.1.2. Intensity

The results showed that there were interactions between country and gender for intensity ratings for 'awareness of lack of knowledge / skills', 'work overload', 'feeling helpless in the case of a patient who fails to improve' (see Table 4.3.4.2). A Tukey test indicated that for 'awareness of lack of knowledge / skills', English female SHOs reported more stress than the English males and both Turkish females and males ($p < 0.01$). Turkish female SHOs reported less stress for 'work overload' than their Turkish male colleagues ($p < 0.05$) and the English females ($p < 0.01$) and males ($p < 0.05$). For 'feeling helpless in the case of a patient who fails to improve' a Tukey test showed that English female SHOs reported more stress than Turkish male ($p < 0.05$) and English male ($p < 0.01$) SHOs.

Table 4.3.4.2. Interactions between country and gender in terms of intensity

ITEMS				
TURKEY		ENGLAND		
Female	**Male**	**Female**	**Male**	
Mean	Mean	Mean	Mean	**F's / d.f.s. / P's**
Sd.	Sd.	Sd.	Sd.	
Awareness of lack of knowledge / skills				
1.17	1.18	2.17	1.61	**4.12 / 1,167 / p <0.05**
0.39	0.79	0.79	0.71	
Work overload				
1.08	1.84	2.11	1.92	**7.49 / 1,168 / p < 0.01**
0.90	1.02	0.82	0.86	
Feeling helpless in the case of a patient who fails to improve				
1.36	1.46	1.94	1.30	**6.64 / 1,167 / p < 0.05**
1.12	0.69	0.63	0.68	

4.3.4.1.3. Intensity when controlling frequency

Three items, 'awareness of lack of knowledge / skills', 'feeling helpless in the case of a patient who fails to improve' and 'being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients', showed interactions between country and gender for intensity when controlling frequency (see Table 4.3.4.3). Post-hoc analysis showed that for 'awareness of lack of knowledge / skills' English ($p < 0.05$) and Turkish ($p < 0.01$) male SHOs reported more stress than Turkish female SHOs. Similarly, English and Turkish male SHOs (both p's < 0.05) rated 'being uncertain about the what to tell a patient or family about the patients' condition and / or needs of patients' as more stressful than their Turkish female colleagues.

In contrast, for 'feeling helpless in the case of a patient who fails to improve' Turkish female SHOs reported more stress than the Turkish and English males (both p's < 0.01).

Table 4.3.4.3. Interactions between country and gender for intensity when controlling frequency

ITEMS				
	TURKEY		ENGLAND	
	Female	Male	Female	Male
	Mean	Mean	Mean	Mean
	Se.	Se.	Se.	Se.
F's / d.f.s. / P's				
Awareness of lack of knowledge				
	1.20	1.39	1.86	1.57
4.07/1,164/p<0.05	0.19	0.08	0.11	0.08
Feeling helpless in the case of a patient who fails to improve				
	1.47	1.40	1.92	1.33
3.94 /1,164/p<0.05	0.20	0.09	0.11	0.09
Being uncertain about the what to tell a patient or family about the patients' condition and / or needs of patients				
	0.78	1.15	1.23	1.09
4.24/1,159/p<0.05	0.19	0.08	0.11	0.08

4.3.4.2. Interactions between country and type of hospital unit in the analyses of individual items

4.3.3.2.1. Frequency

The items 'interruptions of work by other people's phone calls', 'not enough time to complete all of my duties' and 'dealing with long working hours' showed interactions between country and type of hospital unit for frequency of stress sources (see Table 4.3.4.4). A Tukey test showed that English SHOs on the medicine unit reported more stress than their Turkish counterparts on the medicine unit for the item 'interruptions of work by other people's phone calls'. Considering 'not enough time to complete all of my duties', Turkish SHOs on the surgery ($p < 0.01$) and on the medicine ($p < 0.05$) and English senior house officers on the medicine ($p < 0.01$) reported more stress than English SHOs on the surgery unit. A Tukey test showed that for 'dealing with long working hours' Turkish SHOs on the medicine unit reported less stress than their Turkish colleagues on the surgery unit ($p < 0.01$) and English SHOs on the surgery ($p < 0.05$) and medicine units ($p < 0.01$).

Table 4.3.4.4. Interactions between country and type of hospital unit for frequency

ITEMS				
TURKEY		ENGLAND		
Surgery	Medicine	Surgery	Medicine	
Mean	Mean	Mean	Mean	F's / d.f.s. / P's
Sd.	Sd.	Sd.	Sd.	
Interruptions of work by other people's phone calls				
1.73	1.38	1.77	2.00	**10.66 / 1,166 / p<0.01**
0.91	0.85	0.87	0.80	
Not enough time to complete all of my duties				
1.60	1.45	1.02	1.62	**8.29 / 1,117 / p<0.01**
0.89	0.83	0.65	0.85	
Dealing with long working hours				
2.20	1.31	1.86	2.14	**17.73/1,129 / p<0.001**
0.89	1.05	0.90	0.68	

4.3.4.2.2. Intensity

Eight items, 'work overload', 'feeling helpless in the case of a patient who fails to improve', 'lack of an opportunity to share experiences with other personnel on the unit', 'interruptions of work by other people's phone calls', 'lack of time for social life', 'not enough time to complete all of my duties', 'being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients', and 'dealing with long working hours' showed interactions between country and type of hospital unit for the intensity of stress scores (see Table 4.3.4.5). Tukey tests showed that English SHOs on the medicine unit reported more stress than their Turkish counterparts on the medicine unit for the following items: 'work overload' ($p < 0.05$), 'being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients' ($p < 0.05$), and 'dealing with long working hours' ($p < 0.01$). Conversely, 'lack of an opportunity to share experiences with other personnel on the unit' ($p < 0.05$) and 'lack of time for social life' ($p < 0.01$) Turkish SHOs on the surgery unit reported more stress than their English colleagues on the surgery unit . A Tukey test did not show any significant differences between the four groups for the items : 'feeling helpless in the case of a patient who fails to improve', 'interruptions of

work by other people's phone calls' and 'not enough time to complete all of my duties'.

Table 4.3.4.5. Interactions between country and type of hospital unit for intensity

ITEMS				
	TURKEY		ENGLAND	
	Surgery	Medicine	Surgery	Medicine
	Mean	Mean	Mean	Mean
	Sd.	Sd.	Sd.	Sd.
F's / d.f.s. / P's				
Work overload				
	2.07	1.66	1.80	2.24
8.99 / 1,160 / p<0.01	0.99	0.94	0.91	0.69
Feeling helpless in the case of a patient who fails to improve				
	1.72	1.37	1.46	1.64
4.91 / 1,160 / p<0.05	0.65	0.79	0.79	0.79
Lack of an opportunity to share experiences with other personnel on the unit				
	1.24	0.87	0.82	0.87
3.90 / 1,156 / p< 0.05	0.69	0.54	0.61	0.83
Interruptions of work by other people's phone calls				
	1.69	1.45	1.50	1.88
4.83 / 1,158 / p < 0.05	0.93	0.80	0.84	0.95
Lack of time for social life				
	2.38	1.90	1.70	1.93
7.58 / 1,142 / p < 0.01	0.73	0.86	0.90	0.75
Not enough time to complete all of my duties				
	1.75	1.53	1.37	1.76
5.26 / 1,158 / p< 0.05	0.97	0.89	0.76	0.76
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients				
	1.28	0.86	1.11	1.35
7.29 / 1,154 / p < 0.01	0.80	0.68	0.78	0.70
Dealing with long working hours				
	2.21	1.50	1.89	2.22
13.75/1,156/p < 0.001	0.90	1.03	0.84	0.69

4.3.4.2.3. Intensity when controlling frequency

'Work overload', 'lack of an opportunity to talk openly with other unit personnel about problems on the unit', 'lack of time for social life', 'being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients' showed an interaction between country and type of unit (see Table 4.3.4.6). Post-hoc analysis showed that for 'lack of time for social life' Turkish SHOs on the surgery unit reported more stress than Turkish SHOs on the medicine unit, and English SHOs on the surgery and medicine units (all p's < 0.01). However, post-hoc analysis did not show

any significant differences between the four groups for the other items mentioned above. The numerical trend showed that Turkish SHOs who were working on the surgery unit showed more stress than their Turkish colleagues on medicine unit and their English counterparts on the surgery unit for 'lack of an opportunity to talk openly with other unit personnel about problems on the unit' and 'being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients'. For 'work overload' English SHOs on the medicine unit showed more stress than the Turkish SHOs on the medicine unit and the English JHOs on the surgery unit.

Table 4.3.4.6. Interactions between country and type of hospital unit for intensity when controlling frequency

ITEMS				
	TURKEY		**ENGLAND**	
	Surgery	**Medicine**	**Surgery**	**Medicine**
	Mean	Mean	Mean	Mean
	Se.	Se.	Se.	Se.
F's / d.f.s. / P's				
Work overload				
	2.01	1.69	1.88	2.15
5.74 / 1,158 / p<0.05	0.14	0.12	0.10	0.12
Lack of an opportunity to talk openly with other unit personnel about problems on the unit				
	1.20	0.83	0.96	1.07
5.44 / 1,157 / p< 0.05	0.12	0.11	0.09	0.10
Lack of time for social life				
	2.22	1.84	1.85	1.91
5.04 / 1,158 / p < 0.05	0.11	0.10	0.09	0.09
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients				
	1.32	0.96	1.10	1.23
5.69/ 1, 152 / p < 0.05	0.11	0.10	0.08	0.10

4.3.4.3. Interactions between country and time working as a senior house officer

4.3.4.3.1 Frequency

Eight items showed interactions between country and time working as a SHO in terms of frequency of stressors (see Table 4.3.4.7). Tukey tests showed that for 'lack of good physical work environment' Turkish SHOs who had been working less than one year ($p < 0.05$), three and four years (both p's < 0.01) reported more stress than English SHOs who had been

working less than one year. For 'dealing with your relatives as patients', Turkish SHOs who had been working less than one year showed more stress than the English who had been working less than one year, one, two, three, four and five years . For 'not enough time to complete all of my duties'. Turkish SHOs who had been working for three years reported more stress than the English who had been working less than one year and three years (both p's < 0.01) . Similarly, they also reported more stress than the English SHOs who had been working less than one year, one year (both p's < 0.05) , three years ($p < 0.01$) and five years ($p < 0.05$) for 'dealing with your friends as patients'. English SHOs who had been working four years, showed more stress than Turkish SHOs who had been working two years for: 'dealing with new technology' ($p < 0.05$). Similarly, English SHOs who had been working for four years reported more stress than Turkish SHOs who had been working less than one year ($p < 0.05$). For 'work interferes with domestic life' , a Tukey test indicated that English SHOs who had been working two years, reported more stress than Turkish SHOs who had been working less than one year, four years (both at the level of $p < 0.05$) and two years (at the level of $p < 0.01$), and English SHOs who had been working four years, reported more stress than their Turkish colleagues who had been working two years ($p < 0.05$). On the other hand, a Tukey test did not show any significant differences between the groups for "work overload ". However, numerically, Turkish SHOs who had been working three and four years as SHOs showed more stress than the others.

Table 4.3.4.7: Interactions between country and time working as a senior house officer for frequency

ITEMS	Less than one year	1 year	2 years	3 years	4 years	5 years	F's / d.f.s / P's
	Mean	Mean	Mean	Mean	Mean	Mean	
	Sd.	Sd.	Sd.	Sd.	Sd.	Sd.	
Lack of a good physical work environments							
Turkey-	**1.54**	**1.55**	**1.45**	**2.00**	**1.83**	**1.67**	
	0.98	0.93	0.74	0.76	0.94	0.58	**2.79/5,162/ p < 0.05**
England-	**0.65**	**1.29**	**1.62**	**1.20**	**1.00**	**1.33**	
	0.70	0.73	0.83	0.56	0.47	0.52	
Dealing with your relatives as patients							
Turkey-	**1.29**	**1.00**	**0.67**	**1.37**	**0.83**	**2.33**	
	0.91	0.45	0.58	0.52	0.72	0.58	**4.36/5,31/ p < 0.01**
England-	**0.53**	**0.43**	**0.37**	**0.40**	**0.50**	**0.33**	
	0.62	0.65	0.49	0.51	0.71	0.52	
Work overload							
Turkey-	**1.71**	**1.45**	**1.19**	**2.12**	**2.08**	**1.33**	
	0.91	0.69	0.81	0.99	0.90	0.58	**2.48/ 5,160 / p<0.05**
England-	**1.41**	**1.57**	**1.84**	**1.53**	**1.90**	**1.67**	
	0.87	0.85	0.78	0.84	0.57	0.52	
Work interferes with domestic life							
Turkey-	**1.42**	**1.45**	**1.14**	**1.62**	**1.25**	**1.00**	
	0.83	1.29	0.99	1.06	0.75	0.00	**2.67/5,162/p<0.05**
England-	**1.41**	**1.64**	**2.25**	**1.73**	**2.30**	**1.33**	
	0.94	0.84	0.76	0.80	0.68	1.03	
Dealing with new technology							
Turkey-	**1.00**	**0.82**	**0.67**	**0.88**	**0.67**	**1.00**	
	0.78	0.75	0.73	0.64	0.99	0.00	**3.56/5,69/ p<0.01**
England-	**0.71**	**1.21**	**1.23**	**1.00**	**1.60**	**0.67**	
	0.47	0.58	0.50	0.54	0.97	0.52	
Lack of time for social life							
Turkey-	**2.08**	**2.18**	**1.77**	**2.50**	**1.75**	**2.00**	
	0.88	0.98	0.92	0.76	1.06	0.00	**3.90 / 5,62 /p<0.01**
England-	**1.41**	**1.71**	**2.19**	**1.67**	**2.60**	**2.00**	
	0.87	0.83	0.83	0.90	0.52	0.89	
Not enough time to complete all of my duties							
Turkey-	**1.50**	**1.55**	**0.90**	**2.25**	**1.75**	**1.67**	
	0.66	0.82	0.77	0.89	0.87	0.58	**2.54 /5,47/ p<0.01**
England-	**1.06**	**1.50**	**1.37**	**1.07**	**1.40**	**1.50**	
	0.83	0.86	0.75	0.80	0.70	0.84	
Dealing with your friends as patients							
Turkey-	**0.58**	**0.73**	**0.65**	**1.25**	**0.50**	**1.33**	
	0.65	0.48	0.67	0.46	0.67	0.58	**4.23/5,23/ p<0.01**
England-	**0.41**	**0.36**	**0.50**	**0.13**	**0.50**	**0.17**	
	0.51	0.50	0.67	0.35	0.53	0.41	

4.3.4.3.2. Intensity

Four items , 'work overload', 'problems with nurses', 'dealing with new technology', 'lack of time for social life', showed interactions between country and time working as a SHO . A Tukey test indicated that for 'work overload' Turkish SHOs who had been working for three years reported more stress than the English who had been working three years ($p < 0.01$). For 'problems with nurses', English SHOs who had been working for two years reported more stress than the Turkish JHOs who had been working for two years ($p < 0.01$). Tukey tests did not show any significant differences between the groups for 'dealing with new technology' and 'lack of time for social life'.

Table 4.3.4.8: Interactions between country and time working as a senior house officer in terms of intensity

ITEMS	**Less than one year**	**1 year**	**2 years**	**3 years**	**4 years**	**5 years**	
	Mean Sd.	**Mean** Sd.	**Mean** Sd.	**Mean** Sd.	**Mean** Sd.	**Mean** Sd.	**F's / d.f.s / P's**
Work overload							
Turkey-	**1.87**	**1.67**	**1.25**	**2.12**	**1.83**	**2.33**	
	1.01	1.23	1.02	0.84	1.03	0.58	**3.12/5,157/p<0.05**
England-	**1.82**	**1.71**	**2.28**	**1.60**	**2.40**	**2.00**	
	1.02	0.73	0.63	0.99	0.70	0.89	
Problems with nurses							
Turkey	**-0.96**	**0.78**	**0.58**	**1.50**	**0.92**	**1.00**	
	0.93	0.97	0.69	0.93	0.99	1.00	**2.36/5,155/p<0.05**
England-	**1.29**	**1.43**	**1.53**	**1.00**	**1.30**	**1.40**	
	0.77	0.65	0.95	0.54	0.48	0.89	
Dealing with new technology							
Turkey-	**1.04**	**0.44**	**0.60**	**1.12**	**0.33**	**0.67**	
	0.83	0.53	0.75	1.36	0.49	0.58	**2.63/5,157/p<0.05**
England-	**0.71**	**0.86**	**0.94**	**0.73**	**1.10**	**1.00**	
	0.77	0.54	0.67	0.46	0.74	0.63	
Lack of time for social life							
Turkey-	**2.26**	**2.11**	**1.90**	**2.00**	**1.75**	**1.67**	
	0.92	1.05	0.91	0.76	0.87	0.58	**2.68 / 5,156/p<0.05**
England-	**1.47**	**1.64**	**2.13**	**1.47**	**2.20**	**2.00**	
	0.87	0.75	0.76	0.83	0.42	1.10	

4.3.4.3.3. Intensity when controlling frequency

Interactions between country and time working as a senior house officer were not found for any of the items in the questionnaire when considering intensity controlling frequency.

4.3.4.3.4. Summary of interactions between country and contextual factors (gender, types of hospital unit, time working as a SHO)

1. Few items showed interactions between country and gender for frequency, intensity or intensity when controlling frequency.

2. There were interactions between country and type of hospital unit for only a few items for frequency, intensity or intensity when controlling frequency.

3. Interactions were found between country and time working as a senior house officer for frequency and intensity. Once again, the results indicated different patterns for different stress sources.

In this study, the effects of modifying factors on stress in Turkey and England were similar to results of JHOs ' studies. In other words, only a few items showed interactions between country and contextual factors in both studies.

4.3.5. The results from the perceived stress scale (PSS)

As reported in the previous chapters , Turkish and English JHOs didn't show any significant differences in terms of the PSS but the mean scores revealed that Turkish JHOs had higher scores on the PSS than their English colleagues. In this study, the results showed that there were significant differences between English and Turkish senior house officers scores on the PSS ($F=6.35$, $df=1,158$, $p < 0.05$). Like the JHOs results, Turkish senior

house officers had higher PSS scores (mean=28.16, sd=5.61) ($p < 0.05$) than their English counterparts (mean= 25.24, sd= 8.49). The results also showed a positive correlation between job stress (total frequency and total intensity) and PSS for both the Turkish sample { r (tot freq.)=0.5616, n-2=78, $p < 0.01$; r (totint)=0.5352, n-2=78, $p < 0.01$) } and English sample { r (tot freq.)=0.2594, n-2=96, $p<0.02$; r (totint.)=0.2933, n-2=96, $p < 0.01$}. Correlations are higher for the Turkish sample than the English SHOs, suggesting that either work - related problems are more closely associated with other types of stress in Turkey, or that Turkish subjects based their perceived stress on experiences at work.

4.4. DISCUSSION

The rationale behind this study was that if the crucial factor in the previous studies was being a doctor then one would expect similar effects to be apparent for SHOs . On the other hand, if the crucial factor in the previous studies was related to stage of the career then one would expect different effects to be apparent for SHOs.

On the basis of the results of the JHOs studies the following predictions were made and tested using SHOs:

1. There would be no differences between the countries in overall frequency and intensity of stress scores.
2. Selective differences between the countries would be found, with Turkish SHOs complaining more about the items related to interpersonal issues and the physical environment and English SHOs reporting more items related to work overload and dealing with " difficult " patients.
3. Frequent sources of stress would not necessarily lead to the most intense stress, and vice versa.
4. There would be relatively few interactions between country and contextual factors such as gender, types of hospital unit and time working as a SHO.

5. There would be no differences between the two countries in terms of global ratings of perceived stress.

Hypothesis 1, 2 ,3 and 4 were all supported by the data from this study. One major issue is clearly what selective effects emerged and what they represent. These issues are discussed below with reference to the findings of JHOs studies .

Firstly, the similar findings which were significant for both the JHOs and SHOs are summarised (see Table 4.4.1) . Both British JHOs and SHOs reported more frequent stress related to *'dealing with long working hours'*, *'insecurity about their knowledge'*, and *'dealing with new technology'*. They also reported more intense stress for *'dealing with long working hours'* and *'insecurity about their knowledge'*. With regard to intensity when controlling frequency, both medical professions reported that *'dealing with "difficult " patients'* led to intense stress. Conversely, both Turkish JHOs and SHOs stated that *'interpersonal' issues* and the *'physical work environment'* led to frequent stress. Lack of support also led to more intense stress in these groups (see Table 4.4.1). These findings can be interpreted in the same way as in the previous chapter. There were, of course, also a number of items which showed no difference between the countries in either study (Frequency: N=2; Intensity: N=9; Intensity / covarying frequency : N=16). Overall, this shows a consistent pattern of significant effects (or lack of significant effects) for about half the items.

Table 4.4.1. The items which showed significant differences between countries for JHOs and SHOs

ENGLAND	TURKEY
Frequency Dealing with long working hours Caring for the emotional needs of patients Awareness of lack of knowledge / skills Dealing with new technology Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	**Frequency** Lack of a good physical work environment Lack of respect that you deserve from the general public Dealing with your relatives as patients Dealing with your friends as patients
Intensity Dealing with long working hours Work interferes with domestic life Awareness of lack of knowledge / skills Fear of a making a mistake about treatment	**Intensity** Lack of respect that you deserve from the general public
Intensity when controlling frequency Dealing with " difficult " patients	**Intensity when controlling frequency**

A consideration of the mean scores shows that the pattern of country effects was even more consistent across studies. This can be seen in Table 4.4.2 and Table 4.4.3 , which shows items which were significant in one study and showed the same numerical trend in the other.

Table 4.4.2. Items showing a significant effect of country in one study (JHOs study) and the same trend in the other (SHOs study)

ENGLAND	TURKEY
Frequency Dealing with " difficult " patients * Dealing with patients' relatives Work overload Dealing with death and dying	**Frequency** Lack of an opportunity to talk openly with other personnel about the problems on the unit Lack of teaching Not knowing what type of job performance is expected
Intensity Dealing with " difficult " patients Work overload Interruptions of the work by other people's phone calls Not enough time to complete all of my duties *	**Intensity** Lack of a good physical work environment Lack of an opportunity to share experiences with other personnel on the unit Lack of teaching
Intensity when controlling frequency Work overload Not enough time to complete all of my duties	**Intensity when controlling frequency** Lack of respect that you deserve from the general public Dealing with death and dying Dealing with new technology * Lack of teaching Problems dealing with senior doctors *

* Items showing a significant effect of country in one study (JHO) and not the same trend in the other (SHO)

As can be seen in Table 4.4.2 , 6 items out of 7 which were significant in the JHO study, showed the same trend in the SHO study in terms of frequency and intensity. Similarly, 5 items out of 7 which were significant in the JHO study, showed the same trend in the SHO study with regard to intensity when controlling frequency.

Table 4.4.3. Items showing a significant effect of country in one study (SHOs study) and the same trend in the other (JHOs study)

ENGLAND	TURKEY
Frequency Fear of making mistake about treatment	**Frequency** Not having enough staff to adequately provide necessary services *
Intensity Problems with nurses	**Intensity** Number of beds responsible for
Intensity when controlling frequency Not having enough staff to adequately provide necessary services Fear of making a mistake about treatment	**Intensity when controlling frequency** Dealing with patient's relatives

* Items showing a significant effect of country in one study (SHO) and not the same trend in the other (JHO)

As can be seen in Table 4.4.3, 1 item out of 2 which were significant in the SHO study, showed the same trend in the JHO study in terms of frequency. Similarly, 2 items out of 2 which were significant in the SHO study, showed the same trend in the JHO study regarding intensity whereas 3 items out of 3 showed the same trend in the JHO study in terms of intensity when controlling frequency.

Overall, one can conclude that the differences between countries show remarkable consistency in the trends of the effects. This is also true for the PSS, which although significant only in the SHO study, presented similar numerical effects in the two studies.

These consistent effects could be interpreted in two ways. First, they could be specific to the medical profession and not seen with other groups. Secondly, they could be a general feature of working in the two countries. These contrasting hypotheses were tested in the next study which examined stress in teachers in UK and Turkey. Interpretation of the selective differences seen between countries is left until after that study has been considered.

CHAPTER 5: An experimental investigation of stress in newly graduated teachers in Turkey and Wales

5.1. INTRODUCTION

Studies 1 and 2 examined differences between stress in the UK and Turkey for JHOs. Selective differences mainly related to frequency of stress were observed. However, it was unclear whether such effects reflect a global difference between countries which would be observed in a range of jobs, or whether they were specific to the medical profession or only observed in people starting their careers. Results from a study with SHOs suggested that the effects found with JHOs generalise to more senior members of the medical profession. In order to determine whether the differences between countries generalise to other professions, the fourth experimental study of the thesis examined identification of frequency and intensity of stress sources among newly graduated teachers. Before describing this study a review of previous research on stress in teachers starting their career, effects of contextual factors on teachers' stress and cross-cultural differences in teacher stress is given.

5.1.1. Stress in newly graduated teachers

Working as a new teacher could be a traumatic process. The terms " reality shock " or " transition shock ", have been used to express this situation (Veenman, 1984). In other words, when new teachers experience the harsh reality of everyday classroom life, they loose their missionary ideals which they have developed during teacher training. Muller - Fohrbrodt, Cloetta, and Dann (1978) tried to explain this in terms of personal and situational causes. Personal causes included choosing the wrong profession, unsuitable personality characteristics etc., whilst situational causes comprised inadequate professional training, or a problematic school situation (bureaucratic, inadequate staffing, lack of materials etc.) (see Veenman,

1984). Researchers have emphasised five indications of a reality shock namely perceptions of problems, changes of behaviour, changes of attitudes, changes of personality, and leaving the teaching position.

The literature review on occupational stress among teachers given in chapter 1, showed that the stress sources for teachers are many and varied. However, when only considering identification of stress sources with newly graduated teachers, it seems that classroom discipline is the major source of stress (Taylor and Dale, 1971; Kyriacou and Sutcliffe, 1978; Basford, H., 1982; Veenman, S., 1984).

Taylor and Dale (1971) did a survey of teachers in their first year of service. English and Welsh primary and secondary school teachers took part in their study, which used questionnaire and interview methods. Dealing with wide ability groups of children, lack of awareness of children's' previous learning, discipline problems (especially, in secondary schools) and lack of specific techniques (in primary schools in particular) were identified as the major teaching problems facing the newly graduated teachers.

Kyriacou and Sutcliffe, (1978) were interested in the role of biographical variables teacher stress (sex , age, length of teaching experience etc.). They found that younger and less experienced teachers reported greater stress for the following items than their colleagues: punishing pupils, difficult classes, maintaining class discipline, poor promotion opportunities, lack of participation in decision - making; attitudes and behaviour of the head master.

Basford (1982) investigated stress amongst teachers in the first five years of teaching. Ten teachers from three comprehensive schools took part in his study. The group met on five occasions and they discussed their experiences and feelings about being a teacher. Discipline emerged as the major concern for all in the group. They also added that senior staff did not acknowledge their difficulties and that the attitudes of the senior staff were unhelpful. The group also felt strongly about the pressures of disciplining children

outside the classroom. Other stressful situations reported by the group reflected their feelings of being isolated and not being regarded as members of a profession.

Veenman, (1984) reviewed 83 international studies (from the United States, West Germany, the United Kingdom, Netherlands, Australia, Canada, Austria, Switzerland, and Finland) about perceived problems of starting as a teacher. At the end of this review, classroom discipline emerged as the major perceived stress source among newly graduated teachers. This was followed by motivation of students, dealing with individual differences among students, assessing students' work, relationships with parents, organization of class work, insufficient and/ or inadequate teaching materials and supplies, and dealing with problems of individual students.

5.1.2. Effects of contextual factors: gender, types of school

Recently, the effects of modify factors such as gender, types of school etc. on teachers stress have received a great deal of attention (Kyriacou and Sutcliffe, 1978, Laughlin, 1984, Payne and Furnham, 1987, Fontana and Abouserie, 1993 etc.). The findings of Laughlin is (1984) studies supported the proposition that "biographical mediators are particularly influential contributors to stress factor perceptions " (p. 20).

5.1.2.1. Effects of gender

Results from previous studies which have examined effects of gender on teacher stress, suggest that job related stress sources were different for female and male teachers (Kyriacou and Sutcliffe, 1978, Laughlin, 1984, Payne and Furnham, 1987).

Kyriacou and Sutcliffe (1978) were interested in teacher stress associated with biographical variables (sex, age, length of teaching experience etc.). Their questionnaire included four sections : biographical information, sources of stress (51 items), questions about the prevalence of stress, and

symptoms of stress (17 items). Their results on the biographical variables and their relationships with stress sources indicated that female teachers found some items relating to pupil misbehaviour more stressful than their male colleagues. On the other hand, male teachers reported greater stress from administrative and paperwork than their female counterparts.

Laughlin (1984) examined teacher stress in an Australian sample. Four hundred and ninety three primary and secondary school teachers (229 female and 264 male) took part in his study. One hundred and twenty seven of this sample had been working less than five years. The questionnaire which included six sections, was distributed to all subjects. The section regarding stress sources consisted of 20 items. Four factors emerged as a result of factor analysis. The first factor was labelled as 'pupil recalcitrance', factor 2 ' time / resource difficulties', factor 3 'professional recognition', and factor 4 'curriculum demands'. The results on the effects of gender on identification of stress sources indicated that female teachers had higher stress scores for the first factor which was ' pupil recalcitrance ' than male teachers. The direction of this difference was reversed for factor 4, showing that male teachers rated ' curriculum demands ' as a greater source of stress than their female counterparts.

Payne and Furnham (1987) investigated dimensions of occupational stress in West Indian secondary school teachers. Four hundred and forty four secondary school teachers in Barbados took part in their study. The questionnaires about stress also included questions about demographic variables (sex, years of teaching experience etc.). At the end of the analysis, 8 factors emerged: time pressure, authority structure, student behaviour, professionalism, teacher confidence, bureaucratic interference, staff relations, working conditions. The results showed that time management and student behaviour were reported as being more stressful by female teachers than their male colleagues. The researchers concluded that their findings were similar to the results of Kyriacou and Sutcliffe (1978).

5.1.2.2. Effects of types of school

Laughlin (1984) was interested in the role of types of school on teacher stress. One hundred and ninety two primary and 301 secondary school teachers took part in his study. The findings indicated that primary teachers had higher stress scores for two factors, ' time and resource inadequacies' and 'curriculum demands', than their secondary school colleagues. On the other hand, secondary school teachers rated ' pupil recalcitrance ' more highly than their primary school counterparts.

Gorrell et al. (1985) examined perceived stress among elementary and secondary student and full-time teachers. Two hundred and four elementary and secondary school teachers took part in their study. The questionnaire included a 20 item list of potentially stressful school - related situations mainly associated with five main areas: 'discipline and classroom management', 'student progress', 'personal relations with students', 'institutional demands', 'facilities and supplies '. The results showed that elementary teachers had higher stress scores in four of the five categories : 'discipline and classroom management', 'personal relations with students', 'institutional demands ' and 'facilities and supplies '.

Rudd and Wiseman (1962) investigated the sources of job dissatisfaction among 590 infant, junior and secondary school teachers. They were required to list their 'chief sources of professional dissatisfaction '. Large classes were the main source of stress for female teachers in infant and junior schools, whereas salaries stood out as a major source of dissatisfaction for male teachers in junior and secondary schools. The researchers concluded that ' women are more pre-occupied with day to day classroom problems and stresses whilst men appear to find their frustrations in a wider context' (p.289).

Cox et al. (1978) examined sources of job dissatisfaction among primary and secondary school teachers in Wales. Two hundred teachers completed the 59 item questionnaire. Factor analysis revealed five factors: 'school

organization', 'job demands', 'teaching resources and job environment', 'career and training' and 'pupil behaviour'. The primary teachers reported less overall dissatisfaction than male teachers in large comprehensive schools.

5.1.2.3. Cross - cultural studies of teachers stress

Some studies (e.g. Dunham, 1980; Tokar and Feitler, 1986, Gaziel, 1993) have been interested in teacher stress from a cross-cultural perspective. In general, it seems that there are differences in overall stress between the countries but that stress sources among teachers in different countries show some inconsistency. For example, in the Dunham study (1980) German and English teachers identified the same stress sources whereas the findings of Tokar etc. (1986) and Gaziel (1993) indicate that identification of stress sources depended on the country.

5.1.3. Differences in the working practice of Turkish and Welsh teachers

Although the training of Turkish and English teachers is similar, their working practices as secondary school teachers show some differences. For example, teaching hours are different in the two countries. In Turkey, normal teaching hours are 16 hours a week but if teachers want to work extra hours they can teach 20 hours more per week. In return for these extra hours they get payment. Therefore, it is difficult to know how many hours Turkish teachers are working. On the other hand, maximum teaching hours for Welsh teachers are 25 hours for a week. Similarly, Welsh teachers who are starting their job spend some time on school issues e.g. the school discipline code, reporting , pastoral issues . However, this kind of session is not provided by every school. In contrast, new Turkish teachers get some courses on responsibilities of being an employee of the government.

5.1.4. Aim of the present study

In the previous chapters, results from studies of JHOs and SHOs were reported. Those results showed selective differences between the countries for identification of stress sources. This study examined whether this pattern would also emerge among newly graduated teachers.

On the basis of the previous studies reported in this thesis and results from studies of teacher stress, it was possible to make a number of predictions:

1. There would be no differences between the countries regarding overall frequency and intensity of stress scores.
2. There would be selective differences between the countries for individual items.
3. There would be differences reflecting both frequency of exposure to stress and response to it.
4. There would be relatively few interactions between country and gender.
5. There would be effects of type of school on identification of stress sources.
6. Like junior house officers, the newly graduated teachers are also just being beginning their working life, therefore stress at work would not be necessarily related to the global ratings of stress in a wider context.

5.2. METHOD

5.2.1. Design of the study

A cross-sectional design was used involving comparison of teachers starting their first job in South Wales and Turkey. The occupational stress questionnaire and perceived stress scale were distributed to the subjects.

5.2.2. Subjects

Eighty three newly graduated teachers participated in this study. Forty of them were from north Turkey where the other three studies were carried out, and 43 were from South Wales. The age range was 20 - 42 years, with a mean of 26 years. Of the sample, 58 were female and 25 were male subjects. 56 of subjects were single whereas 27 of subjects were married. 23 of Welsh sample were primary school teachers whilst 20 of Welsh participants were secondary school teachers. On the other hand, all Turkish sample were secondary school teachers. Both Welsh and Turkish secondary school teachers were teaching different subjects such as physics, chemistry, biology, music, languages etc. (see Table 5.2.1 for more detail information).

Table 5.2.1. Demographic data { N (Wales)=43, N(Turkey)=40 }

Variable		WALES		TURKEY	
		N	%	N	%
Gender	Female	35	81	23	58
	Male	8	19	17	42
Age	20-24 years old	25	58	19	48
	25-30 years old	9	21	12	30
	more than 30 years old	8	19	9	22
	No response	1	2	-	-
	Mean	26.23		26.67	
	sd.	5.35		4.17	
	range (min-max.)	22 -42		20 -35	
Marital Status	Single	34	79	20	50
	Married	9	21	18	45
	Others	-	-	2	5
Types of school	Primary	23	54	-	-
	Secondary	20	46	40	100

5.2.3. Measurements

Two questionnaires were designed to examine identification of frequency and intensity of sources of stress among newly graduated teachers. These questionnaires included some 44 potentially stressful situations identified from the literature (Kyriacou and Sutcliffe, 1978; Okebukola and Jegede, 1989; Hart, N., I., 1987 ; etc.) . Some of these stressful situations were 'pupil misbehaviour', 'too much paperwork', 'having to teach a subject for which you have not been trained' etc. (see Appendix C). A four - point scale was used to examine " how often teachers experienced stress { never (0), occasionally (1), frequently (2), and very frequently (3)}. Similarly, a 4 point scale was used to assess the intensity of stress { no stress (0), little stress (1), moderate stress (2), and great stress (3)}. In addition to these questionnaires, a one page questionnaire was prepared to record information on age, gender, marital status, whether they are primary or secondary school teachers. The perceived stress scale (PSS) was also distributed to all subjects.

Once again, the questionnaires were translated from English to Turkish and back translated as well by three Turkish postgraduate students who were doing PhDs at the University of Bristol. In Wales, the questionnaires were posted to heads of the schools who distributed them to newly graduate teachers. In Turkey, the questionnaires were sent directly to the subjects' school addresses. In both countries, when subjects completed the questionnaires they sent them back to the researcher by stamped addressed envelopes.

Once again, the major problem with the questionnaire was that it was mostly based on previous studies in western countries. Therefore, the applicability of the items to Turkey was not known.

5.3. RESULTS

Factor analysis, analysis of variance and co-variance were carried out using the BMDP package. As in the previous studies, initially a Levene's test of equality of variance was considered. When the Levene's test was not significant then the statistics from the analyses of variance were examined. If the variances were not equal statistics from the Brown -Forsythe test were considered. Some of the analyses are reported here with smaller degrees of freedom and this refers to the result of the Brown - Forsythe analysis which allows one to compare means without assuming equality of variance but this is achieved at the cost of losing degrees of freedom.

The findings of statistical analysis are reported here under four main headings: overall stress scores , factor analysis, analysis of individual items and effects of contextual factors.

5.3.1. Overall stress scores (Frequency, intensity and intensity covarying frequency)

5.3.1.1. Country effect

A main effect of country was not found for either the frequency score ($F=0.04$, $df=1, 80$) the intensity score ($F=1.96$, $df= 1, 80$), or intensity when controlling frequency ($F=3.51$, $df= 1, 79$).

5.3.1.2. Gender effect

When gender was included as an additional factor in the analysis a main effect of gender was found only for the intensity score ($F=4.74$, $df= 1,78$, $p < 0.05$). The mean scores revealed that it seems that female teachers showed higher levels of stress. There was no interaction between country and gender in terms of intensity. Similarly, no main effects of gender nor interactions between country and gender were found frequency, nor intensity when controlling frequency.

5.3.1.3. Type of school effect

Turkish secondary school teachers were compared with (1)Welsh primary and (2) secondary school teachers.

A main effect of type of school was found only for intensity when controlling frequency ($F=3.20$, $df= 2, 78$, $p < 0.05$) . The mean scores revealed that Turkish secondary school teachers (mean=57.48, se=1.87) and Welsh primary school teachers (mean=55.36, se=2.44) showed more stress than Welsh secondary school teachers (mean=49.38, se=2.61). However, the same effect did not emerge in terms of frequency or intensity scores alone.

5.3.1.4. The summary of overall stress scores

1. There were no overall differences between the countries in terms of either frequency, intensity or intensity when frequency was covaried.

2. A main effect of gender was found for only for the intensity scores. Country x gender interactions were not found for either frequency, intensity or intensity when controlling frequency.

3. A main effect of type of school was found only for intensity when covarying frequency.

5.3.2. Factor analysis

5.3.2.1. Factor analysis of individual items

Ten factors emerged accounting for about 66 % of variance of the frequency data of combined the Turkish and Welsh subjects (see Table 5.3.2.1) with the first factor accounting for about 25 % of the variance . Similarly, 10 factors appeared accounting for about 70 % of the variance of the intensity data , with the first factor accounting for about 30% of the variance (see Table 5.3.2.2).

TABLE 5.3.2.1: Factor analysis of the frequency data from Turkish and Welsh newly graduated teachers

FACTOR 1: (25 % of variance) Time pressures	**Loadings**
The job interfering with private life	0.79
Lack of time prepare lessons	0.75
Lack of time for personal relaxation / leisure	0.75
Dealing with long working hours	0.66
Feelings of inadequacy as a teacher	0.58
FACTOR 2: (8 % of variance) Lack of support	
Problems with colleagues	0.76
Not enough praise and encouragement for your efforts by Heads of Departments	0.70
Lack of someone with whom to discuss things frankly within school	0.67
Lack of concern about problems by senior staff	0.65
Lack of opportunities to express your point of view in school decision - making	0.61
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	0.56
FACTOR 3: (7 % of variance) Problems with pupils behaviour	
Dealing with poorly motivated pupils	0.82
Difficulty in motivating students	0.82
Students who do not come class with necessary materials	0.62
FACTOR 4: (5 % of variance) Lack of good working conditions	
Lack of opportunities for professional improvement	0.72
Inadequacies of school buildings and equipment	0.69
Inadequate salary	0.63
Noise and other disturbances from neighbouring classes	0.52
FACTOR 5: (4 % of variance)	
Dealing with large classes	0.77
Having to teach a subject for which you have not been trained	0.73
FACTOR 6: (4 % of variance) Classes	
Problems due to lack of training	0.74
Problems in trying to uphold / maintain values and standards	0.66
Responsibility for pupils (e.g. exam success)	0.60
FACTOR 7: (3 % of variance)	
Lack of co-operation on the part of parents	0.79
Dealing with mixed ability group	0.62
Too much paperwork	0.59
FACTOR 8: (3 % of variance)	
Work overload	0.81
Problems when dealing with students' parents	0.70
FACTOR 9: (3 % of variance)	
Problems with students' behaviour outside the classroom	0.86
Lack of time to spend with individual pupils	0.50
FACTOR 10: (3 % of variance)	
Punishing pupils	0.77
Concern over the status of the profession in society	0.52

TABLE 5.3.2.2: Factor analysis of the intensity data from Turkish and Welsh newly graduated teachers

FACTOR 1: (30 % of variance) Work overload and time pressures	**Loadings**
Dealing with long hours work	0.83
Time pressures	0.77
Too much paperwork	0.74
Work overload	0.74
Getting all the paperwork done in time	0.70
Lack of time for personal relaxation / leisure	0.66
The job interfering with private life	0.63
Lack of time to prepare lessons	0.62
FACTOR 2: (9 % of variance) Lack of support	
Problems with colleagues	0.80
Not enough praise and encouragement for your efforts by Heads of Departments	0.73
Lack of someone with whom to discuss things frankly within school	0.69
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	0.59
Lack of opportunities to express your point of view in school decision - making	0.59
Role conflicts or role ambiguity e.g.	0.57
Lack of concern about problems by senior staff	0.57
FACTOR 3: (7 % of variance) Lack of good working conditions and classroom discipline	
Inadequacies of school buildings and equipment	0.75
Noise and other disturbances from neighbouring classes	0.67
Inadequate salary	0.67
Lack of opportunities for professional improvement	0.65
Dealing with large classes	0.60
FACTOR 4: (5 % of variance) Problems with pupils behaviour	
Poorly motivated pupils	0.82
Difficulties in motivating students	0.72
Dealing with mixed ability groups	0.70
Pupil misbehaviour	0.67
Punishing pupils	0.66
FACTOR 5: (4 % of variance) Insecurity about their knowledge	
Having to teach a subject for which you have not been trained	0.82
Problems due to lack of training	0.67
Feelings f inadequacy as a teacher	0.66
FACTOR 6: (3 % of variance) Problems with students' parents	
Problems when dealing with students' parents	0.62
Lack of co-operation on the part of parents	0.61
FACTOR 7: (3 % of variance)	
Concern over the status of the profession in society	0.71
FACTOR 8: (3 % of variance)	
Visits from government (or other) inspectors which include inspections of your classroom teaching	0.79
Threats of physical violence from a student	0.53
FACTOR 9: (3 % of variance)	
Responsibilities for pupils (e.g. exam success)	0.66
FACTOR 10: (4 % of variance)	
Lack of the time to spend individual pupils	0.61

5.3.2.2. Analysis of variance on factor scores

5.3.2.2.1. Factors showing a country effect in terms of frequency

Three factors out of 10 showed a country effect with regard to frequency (see Table 5.3.2.3).

The Factor 1 score, was greater for Welsh newly graduated teachers than their Turkish colleagues ($p < 0.05$) showing that *'time pressures'* were more frequent in Wales.

The Factor 4 score was higher in the Turkish teachers than their Welsh counterparts ($p < 0.01$), showing that *'lack of good working conditions'* was more of a problem in Turkey.

The Factor 10 score which included the following items : *'punishing pupils'* and *'concern over the status of the profession in society '*, also showed a country effect with Welsh teachers reporting higher scores for this factor than Turkish teachers ($p < 0.05$).

Table 5.3.2.3: The factors which showed country effects in terms of frequency of stress

FACTORS	TURKEY		WALES		F's / d.f.s. / P's
	Mean	Sd.	Mean	Sd.	
FACTOR 1	1.19	0.60	1.56	0.69	6.95 / 1, 79 / $p < 0.05$
FACTOR 4 *	1.61	0.68	1.07	0.68	12.16 /1,77/ $p < 0.001$
FACTOR 10 *	1.00	0.75	1.37	0.66	5.48 / 1, 76 / $p < 0.05$

*=Country effects hold up when other factors considered in the analyses.

5.3.2.2.2. Factors showing country effect in terms of intensity

The Factor 1 score, *'work overload and time pressures'* , was higher for Welsh teachers than their Turkish colleagues ($p < 0.05$). The Factor 2 score, *' lack of support '* , was higher for Turkish teachers than Welsh teachers ($p < 0.05$). The Factor 3 score, *' lack of good working conditions and classroom discipline '*, was higher for Turkish teachers than their Welsh counterparts ($p < 0.01$).

The Factor 5 score , which was called ' *insecurity about their knowledge* ', was higher for Turkish teachers than Welsh teachers ($p < 0.05$).

Table 5.3.2.4: The factors which showed country effects for intensity of stress

FACTORS	TURKEY		WALES		F's / d.f.s. / P's
	Mean	Sd.	Mean	Sd.	
FACTOR 1	1.45	0.62	1.85	0.79	5.80 / 1, 72 / $p < 0.05$
FACTOR 2 *	1.11	0.68	0.65	0.63	8.50 / 1,67 / $p < 0.01$
FACTOR 3 *	1.71	0.62	1.02	0.68	21.78 / 1,76/$p < 0.001$
FACTOR 5 *	1.40	0.73	1.06	0.70	4.39 / 1,74 / $p < 0.05$

*=Country effects hold up when gender also included in the analyses.

5.3.2.2.3. Factors showing country effect in terms of intensity when controlling frequency

Three factors out of 10 showed a country effect for intensity when controlling frequency (see Table 5.3.2.5). The Factor 2 (' *lack of support*') scores were higher for the Turkish newly graduated teachers than the Welsh. Similarly, factor 3, which was called ' *lack of good working conditions and classroom discipline* ' was higher for the Turkish teachers than the Welsh. Factor 5, ' *insecurity about their knowledge* ', was also higher for the Turkish teachers than the Welsh.

Table 5.3.2.5: The factors which showed country effects in terms of intensity of stress when controlling frequency

FACTORS	TURKEY		WALES		F's / d.f.s. / P's
	Mean	Se.	Mean	Se.	
FACTOR 2 *	0.99	0.08	0.74	0.07	5.13 / 1, 61 / $p < 0.05$
FACTOR 3 *	1.51	0.07	1.18	0.06	12.02 / 1,71 / $p < 0.001$
FACTOR 5 *	1.43	0.10	1.04	0.09	7.79 / 1,71 / $p < 0.01$

*=Country effects hold up when gender considered in the analysis.

5.3.2.3. Interaction between country and gender in the analyses of the factor scores

An interaction was found between country and gender for frequency for factor 7 (F=6.42, df=1,75, $p < 0.05$) which included the following items : *'lack of co-operation on the part of parents '*, *'dealing with mixed ability group'*, *'too much paperwork'*. Mean scores revealed that Turkish male teachers (mean=1.71, sd= 0.49) and Welsh female teachers (mean=1.75, sd=0.58) reported more frequent stress than Turkish female teachers (mean=1.38, sd= 0.67) and Welsh male teachers (mean=1.29, sd= 0.74). An interaction between country and gender was only found for intensity (f=4.22, df=1,72, $p < 0.05$) and intensity when controlling frequency (F=5.64, df=1,69, $p < 0.05$) for factor 5, *' insecurity about their knowledge '*. When considering intensity, a Tukey test indicated that Turkish male teachers had higher stress scores (mean=1.54, sd=0.69) than the Welsh males (mean=0.62, sd=0.58, $p < 0.05$). When considering intensity with frequency covaried, Turkish male teachers reported more stress (mean=1.68, se=0.17) than Welsh males (mean=0.73, se= 0.22).

5.3.2.4. Summary of analyses of the factor scores

1. Frequency of stress: the factors which were called *'time pressures'*, *and 'punishing pupils and concern over the status of the profession in society'* were rated more stressful by Welsh newly graduated teachers than the Turks. On the other hand, *'lack of good working conditions'* was rated more stressful by Turkish newly graduated teachers than the Welsh. An interaction was also found between country and gender for frequency of stress for factor 7 which included the following items : *'lack of co-operation on the part of parents '*, *'dealing with mixed ability group'*, *'too much paperwork'*.

2. Intensity of stress: Welsh teachers had higher scores for *'work overload and time pressures'* whereas Turkish teachers rated *'lack of support'* , 'lack

of good working conditions' and *'insecurity about their knowledge'* as more stressful.

3. Intensity when controlling frequency: *'lack of support'*, *'lack of good working conditions'* and *'insecurity about their knowledge'* were higher for the Turkish newly graduated teachers for intensity when controlling frequency. The results also showed that there was an interaction between country and gender for intensity and intensity when controlling frequency for factor 5 , *insecurity about their knowledge* '. The results indicated that the differences between the male subjects was greater.

5.3.3. Specific types of stress - Differences in frequency and intensity of individual items

5.3.3.1. Identification of frequency of stress sources

The results indicated that Welsh teachers reported more stress for 11 items out of 44 (25 %) whereas the Turkish teachers reported more stress on 5 items out of 44 (11 %). When gender was included in the analyses the country effect only held up for 4 items where the Welsh sample reported higher scores and 5 items where the Turkish sample reported higher scores. On the other hand, 28 items out of 44 (64 %) did not show any significant differences between the two countries (see Table 4.1 in Appendix 4). The items which showed significant differences between Wales and Turkey, are shown in Table 5.3.3.1 and 5.3.3.2 .

Items rated as more frequently stressful in Wales were not just very frequent items. Some of them were " occasional " in Wales but there were often "never" in Turkey. For example, *'time pressures'* was restricted to the middle two categories in Wales whereas for the same item, ratings were restricted to the less frequent end of the scale in Turkey. Similar results also emerged for the items more frequently rated as stressful in Turkey. For example, for ' *problems with student behaviour outside the classroom'*,

ratings were restricted to middle two categories in Turkey whilst for the same item, ratings were restricted to less frequent end of the scale in Wales.

Table 5.3.3.1. The items identified as more frequent sources of stress by Welsh newly graduated teachers (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. / P's Mean / sd.
Lack of time to spend with individual pupils *					**10.01 /1,66 /p<0.01**
Wales-	0	5	53	40	2.36 / 0.58
Turkey-	3	43	25	30	1.83 / 0.90
Getting all the paper work done in time					**5.86 /1,81 /p < 0.05**
Wales-	0	14	49	37	1.63 / 0.90
Turkey-	10	35	30	23	1.13 / 0.90
The job interfering with private life					**7.25 / 1,80 / p < 0.01**
Wales-	2	37	23	35	1.72 / 1.05
Turkey-	10	35	30	23	1.10 / 1.02
Punishing pupils *					**4.79 / 1,81/ p<0.05**
Wales-	2	26	42	33	1.33 / 0.75
Turkey-	25	30	25	20	0.93 / 0.92
Dealing with mixed ability groups					**10.87 / 1,77 / p < 0.01**
Wales-	5	26	37	33	1.93 / 0.92
Turkey-	20	38	18	20	1.33 / 0.73
Work overload					**8.05 / 1,72 / p < 0.01**
Wales-	14	30	26	30	2.00 / 0.82
Turkey-	35	28	25	10	1.40 / 1.08
Too much paperwork					**7.29 / 1,79 / p < 0.01**
Wales-	7	44	28	21	1.98 / 0.89
Turkey-	30	40	18	13	1.40 / 1.05
Pupil misbehaviour					**4.49 / 1,81 / p < 0.05**
Wales-	0	56	30	14	1.58 / 0.80
Turkey-	13	63	15	10	1.23 / 0.80
Time pressures					**9.34/1,68 / p<0.01**
Wales-	7	63	21	9	2.23 / 0.68
Turkey-	38	40	15	8	1.67 / 0.96
Feelings of inadequacy as a teacher *					**8.77 / 1,81 / p< 0.01**
Wales-	9	65	21	5	1.21 / 0.68
Turkey-	33	60	5	2	0.78 / 0.66
Covering lessons for absent teachers *					**4.03 / 1,80 / p< 0.05**
Wales-	40	35	19	7	0.93 / 0.94
Turkey-	53	60	10	0	0.56 / 0.68

*= Country effect held up when another factor (gender) was included in the analyses

Table 5.3.3.2. The items rated as more frequent sources of stress by Turkish newly graduated teachers (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. / P's Mean / sd.
Lack of opportunities for professional improvement *					**25.33 /1,81 / p< 0.001**
Turkey-	3	35	28	35	1.95 / 0.90
Wales-	33	49	9	9	0.95 / 0.90
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned *					**10.14 / 1,62 / p<0.01**
Turkey-	30	38	15	15	1.15 / 1.04
Wales-	49	44	0	2	0.54 / 0.64
Lack of co-operation on the part of parents *					**10.54 / 1,74 / p < 0.01**
Turkey-	10	30	35	23	1.72 / 0.94
Wales-	21	53	21	5	1.09 / 0.78
Problems with students' behaviour outside the classroom *					**7.82 / 1,79 / p < 0.01**
Turkey-	8	60	20	8	1.29 / 0.73
Wales-	35	47	19	0	0.84 / 0.72
Lack of concern about problems by senior staff *					**5.50/1,78 / p < 0.05**
Turkey-	23	45	18	8	1.11 / 0.88
Wales-	49	37	12	2	0.67 / 0.78

*=Country effect held up when another factor (gender) was included in the analyses

5.3.3.2. Identification of intensity of stress sources

The differences between Wales and Turkey for intensity of stress were clear cut. Turkish teachers had higher stress scores for 17 items out of 44 (39%) whilst Welsh newly graduate teachers showed more stress for only 7 items out 44 (16 %). When gender was considered , the country effect held up for 16 items for the Turkish sample whereas the country effect held up for only 2 items for the Welsh sample. On the other hand, 20 items out of 44 (45 %) did not show any significant differences between the two countries (see Table 4.2 in Appendix 4). Items which showed significant differences between the Welsh and Turkish newly graduated teachers, are shown in Table 5.3.3.3 and 5.3.3.4 .

Items which revealed differences between the countries for intensity did not reflect the magnitude of the ratings. In other words, items rated stressful in Turkey were not just all at the high stress end of the scale. For example , for *'lack of professional assessment* ', ratings were restricted to the middle two

categories in Turkey whilst ratings were restricted to the less intense stress end of scale for the same item in Wales. Similar results were found for items that caused great stress in Wales. For example, *'pupil misbehaviour'* was mostly rated as "moderately stressful" by Welsh teachers whereas Turkish teachers rated the same item as producing "little stress".

Table 5.3.3.3. The items which produced more intense stress in Welsh newly graduated teachers (as %)

ITEMS	No stress	Little stress	Moderate stress	Great stress	**F's / d.f.s. / P's Mean / sd.**
Time pressures *					**12.48 / 1,79 / p<0.001**
Wales-	2	19	42	37	2.14 / 0.80
Turkey-	10	45	25	15	1.47 / 0.89
Work overload					**6.18 / 1,78 / p <0.05**
Wales-	9	7	44	35	2.10 / 0.92
Turkey-	10	38	33	18	1.59 / 0.91
Too much paperwork					**5.70 / 1,79 / p < 0.05**
Wales-	9	14	42	33	2.00 / 0.94
Turkey-	15	40	23	20	1.49 / 0.10
Getting all the paperwork done in time					**10.36 / 1,79 / p < 0.01**
Wales-	12	12	47	30	1.95 / 0.95
Turkey-	23	38	23	13	1.26 / 0.98
Dealing with long hours work					**8.26 / 1,77 / p < 0.01**
Wales-	5	23	44	23	1.90 / 0.83
Turkey-	13	43	33	8	1.37 / 0.82
Visits from government (or other) inspectors which include inspections of your classroom teaching *					**5.97 / 1,72 / p < 0.05**
Wales-	28	12	30	23	1.53 / 1.18
Turkey-	43	20	13	10	0.88 / 1.07
Pupil misbehaviour					**6.06 / 1,79 / p < 0.05**
Wales-	7	23	51	16	1.79 / 0.81
Turkey-	8	55	28	8	1.36 / 0.74

*= Country effect held up when another factor (gender) was included in the analyses

Table 5.3.3.4. The items rated as producing more intense stress by Turkish newly graduated teachers (as %)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. / P's Mean / sd.
Dealing with large classes *					**7.49 / 1,77 / p < 0.01**
Turkey-	5	28	25	38	2.00 / 0.96
Wales-	28	21	30	16	1.37 / 1.09
Dealing with high noise levels *					**4.72 / 1, 80 / p < 0.05**
Turkey-	8	30	28	33	1.87 / 0.98
Wales-	19	42	21	19	1.40 / 1.00
Inadequate salary					**4.29 / 1,79 / p < 0.05**
Turkey-	13	23	33	28	1.79 / 1.02
Wales-	19	37	35	7	1.35 / 0.90
Students who do not come to class with necessary materials *					**30.47/1,79 / p < 0.001**
Turkey-	0	35	38	25	1.90 / 0.79
Wales-	42	33	19	5	0.86 / 0.90
Lack of opportunities for professional improvement *					**35.21/1,80 / p < 0.001**
Turkey-	3	30	43	23	1.87 / 0.80
Wales-	33	51	14	2	0.86 / 0.74
Inadequacies of school buildings and equipment *					**12.59/1,80/p<0.001**
Turkey-	8	33	40	18	1.69 / 0.86
Wales-	23	53	19	5	1.05 / 0.79
Having to teach a subject for which you have not been trained *					**6.72 /1,76 /p<0.05**
Turkey-	13	23	38	18	1.67 / 0.96
Wales-	33	33	23	9	1.10 / 0.98
Noise and other disturbances from neighbouring classes *					**6.70 / 1,79 / p<0.05**
Turkey-	28	43	10	18	1.18 / 1.05
Wales-	67	21	5	7	0.51 / 0.88
Lack of co-operation on the part of parents *					**8.21/ 1,78/ p<0.01**
Turkey-	8	33	43	15	1.67 / 0.84
Wales-	30	47	19	2	0.93 / 0.78
Problems due to lack of training *					**7.65 / 1,68 / p < 0.01**
Turkey-	18	40	23	15	1.37 / 0.97
Wales-	33	47	19	0	0.86 / 0.72
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned *					**11.82/1,78/p < 0.001**
Turkey-	18	50	18	13	1.26 / 0.91
Wales-	56	28	7	5	0.59 / 0.84
Lack of opportunities to express your point of view in school decision - making *					**8.55/1,75/p <0.01**
Turkey-	15	45	13	13	1.27 / 0.93
Wales-	42	44	14	0	0.72 / 0.70
Lack of concern about problems by senior staff *					**6.32 / 1,76 / p < 0.05**
Turkey-	25	35	18	10	1.14 / 0.97
Wales-	49	40	9	2	0.65 / 0.75

Table 5.3.3.4. The items rated as producing more intense stress by Turkish newly graduated teachers (as %) (continued)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. / P's Mean / sd.
Threats of physical violence from a student *					**6.92 / 1,57 / p<0.05**
Turkey-	50	15	15	9	0.83 / 1.08
Wales-	79	12	5	2	0.29 / 0.67
Problems with students' behaviour outside the classroom *					**7.08 / 1,79 / p<0.01**
Turkey-	13	48	28	8	1.32 / 0.81
Wales-	44	35	16	5	0.81 / 0.88
Not enough praise and encouragement for your efforts by Heads of Departments					**6.73 / 1,77 / p<0.05**
Turkey-	30	28	33	5	1.13 / 0.94
Wales-	49	40	9	2	0.63 / 0.77
Lack of professional assessment *					**12.67 / 1,78 / p<0.001**
Turkey-	5	48	28	3	1.19 / 0.74
Wales-	42	51	7	0	0.65 / 0.61

*= Country effect held up when another factor (gender) was included in the analyses

5.3.3.3. Intensity controlling frequency of stress

Eighteen items out of 44 (41 %) showed significant differences between the two countries in the analyses of intensity when controlling frequency . Turkish teachers rated 14 items as more stressful whereas Welsh teachers had higher stress scores for only 4 items. When gender was included in the analyses, the country effect held up for 11 items. On the other hand, 26 items out of 44 (59 %) did not show any significant differences between the countries for intensity when covarying frequency (see Table 4.3 in Appendix 4). The items which showed significant differences, are shown in Tables 5.3.3.5 and 5.3.3.6 .

Table 5.3.3.5. Types of stress reported as more intense by Welsh newly graduated teachers than Turkish newly graduated teachers (after covarying frequency)

ITEMS	WALES Adjusted Mean	SE.	TURKEY Adjusted Mean	SE.	F's / d.f.s. / P's
Dealing with long hours work	1.85	0.11	1.43	0.12	**6.69 /1,76 / p < 0.05**
Time pressures	2.01	0.12	1.62	0.12	**4.98 / 1,78 / p < 0.05**
Getting all the paperwork done in time	1.82	0.12	1.41	0.13	**5.50 / 1,78 / p < 0.05**
Visits from government (or other) inspectors which include inspections of your classroom teaching *	1.49	0.16	0.90	0.18	**6.11 / 1, 66 /p < 0.05**

*= Country effect held up when another factor (gender) was included in the analyses

Table 5.3.3.6. Types of stress reported as more intense by Turkish newly graduated teachers than Welsh ones (after covarying frequency)

ITEMS	TURKEY		WALES		F's / d.f.s. / P's
	Adjusted Mean	SE.	Adjusted Mean	SE.	
Inadequacies of school buildings and equipment *	1.58	0.11	1.14	0.10	**8.96 / 1,79 / p< 0.01**
Noise and other disturbances from neighbouring classes	1.05	0.12	0.63	0.11	**6.70 / 1,79 / p < 0.05**
Covering lessons for absent teachers *	0.92	0.12	0.54	0.11	**5.71 / 1,73 / p < 0.05**
Dealing with large classes *	1.86	0.14	1.47	0.13	**3.99 / 1,75 / p < 0.05**
Lack of opportunities for professional improvement *	1.66	0.12	1.06	0.11	**12.53 / 1,79 /p<0.001**
Dealing with high noise levels *	1.85	0.11	1.41	0.10	**8.30 / 1,79 / p < 0.01**
Students who do not come to class with necessary materials *	1.84	0.11	0.96	0.11	**30.93/1,76 /p < 0.001**
Lack of co-operation on the part of parents *	1.54	0.12	1.05	0.12	**8.21 /1, 78 / p < 0.01**
Not enough praise and encouragement for your efforts by Heads of Departments	1.01	0.11	0.69	0.10	**4.67 / 1, 74 / p<0.05**
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	1.09	0.12	0.71	0.12	**4.50 / 1, 76 /p < 0.05**
Lack of professional assessment *	1.15	0.11	0.68	0.10	**8.93 / 1,75 / p < 0.01**
Threats of physical violence from a student	0.72	0.13	0.33	0.12	**4.48 / 1,74 / p < 0.05**
Lack of opportunities to express your point of view in school decision - making *	1.21	0.12	0.77	0.10	**8.14 / 1,73 / p < 0.01**
Having to teach a subject for which you have not been trained *	1.68	0.15	1.10	0.14	**7.77 / 1,73 / p < 0.01**

*= Country effect held up when another factor (gender) was included in the analyses

5.3.3.4. Summary of analyses of individual items

1. The differences between Welsh and Turkish newly graduated teachers for frequency of stress were clear cut. Welsh newly graduated teachers found 11 items out of 44 more frequently stressful than their Turkish colleagues. On the other hand, Turkish ones reported more frequent stress for only 5 items.

Welsh newly graduated teachers complained about items which were related to work overload and time pressure (e.g. 'getting all the paperwork done in time', 'too much paper work' etc.), dealing with pupil behaviour (e.g. 'pupil misbehaviour'), and classroom discipline ('punishing pupils' etc.). These results were confirmed in analyses of the factor scores which showed that Welsh teachers reported the factors called 'time pressure', and 'punishing pupils', more than their Turkish colleagues.

On the other hand, Turkish teachers reported items associated with lack of support (e.g. 'lack of opportunities for professional improvement', 'lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned' etc.), more than their Welsh counterparts. However, these results were not confirmed in the analyses of factors scores which showed that the factor 'lack of good working conditions', was rated more stressful by Turkish teachers than their Welsh colleagues.

2. Once again, the differences between Welsh and Turkish newly graduated teachers in ratings of intensity stress sources were clear cut. However, Turkish newly graduated teachers reported that greater stress than their Welsh counterparts for 17 items. In contrast, Welsh teachers reported 7 items more stressful.

Welsh newly graduated teachers complained more about work overload and time pressure, (e.g. 'too much paperwork', 'getting all the paperwork done in time', 'dealing with long hours work' etc.). On the other hand , 'dealing with large classes', 'dealing with high noise levels' and 'inadequate salary' were the first three items which were reported to cause great stress for Turkish teachers. In general, Turkish newly graduated teachers complained more about lack of support and resources , problems related to students, and classroom discipline. The analyses of the factors scores confirmed that 'work overload' was rated as being more stressful by Welsh teachers

whereas 'lack of support' was rated as being more stressful by Turkish teachers.

3. The differences between Welsh and Turkish newly graduated teachers for intensity when controlling frequency, were again clear cut. Welsh teachers reported more stress for 4 items whereas Turkish newly graduated teachers rated 14 items as causing greater stress.

Again Welsh teachers complained about items related to work overload whilst Turkish teachers found the items which were related to lack of support and resources to be stressful. Analysis of factor scores also showed that the factors 'lack of support' and 'lack of good working conditions' were rated as more stressful by Turkish newly graduated teachers.

5.3.4. Interaction between country and gender

5.3.4.1. Frequency

Interactions between country and gender were found for the frequency scores for the following items: ' time pressure ', 'problems in trying to uphold / maintain values and standards ' and 'dealing with mixed ability groups ' (see Table 5.3.4.1).

A Tukey test indicated that ' time pressure ' , was found to be more stressful by Welsh female teachers than the Turkish female ($p < 0.01$) and male ($p < 0.05$) teachers . Similarly, Welsh female teachers also found ''dealing with mixed ability groups ', more stressful than the Turkish females ($p < 0.01$). However, a Tukey test did not show any significant differences between the four groups for 'problems in trying to uphold / maintain values and standards', although mean scores revealed that the Turkish male and Welsh female teachers showed more stress than Welsh male teachers.

Table 5.3.4.1. Interactions between country and gender in the analyses of individual items (frequency of stress sources)

ITEMS				
	WALES		TURKEY	
	FEMALE	MALE	FEMALE	MALE
	Mean SD.	Mean SD.	Mean SD.	Mean SD.	F's / d.f.s. / P's
Time pressures				
	2.37 0.60	1.63 0.74	1.64 1.05	1.71 0.85	**3.97 / 1,78 / p < 0.05**
Problems in trying to uphold / maintain values and standards				
	1.40 0.78	0.75 0.71	1.17 0.65	1.41 0.51	**6.52 / 1, 79 / p < 0.05**
Dealing with mixed ability groups				
	2.03 0.87	1.50 1.07	1.17 0.72	1.53 0.72	**4.53 / 1, 78 / p < 0.05**

5.3.4.2. Intensity

Interactions between country and gender for intensity were found for two items, ' getting all the paperwork done in time ' and ' having to teach subject for which you have not been trained ' (see Table 5.3.4.2). For 'getting all the paperwork done in time' , Welsh female ($p < 0.01$) and male ($p < 0.05$) teachers reported more stress than the Turkish females. In contrast, Turkish male teachers found 'having to teach a subject for which you have not been trained ' more stressful than the Welsh females ($p < 0.05$) and males ($p < 0.01$).

Table 5.3.4.2. Interactions between country and gender in the analyses of individual items (intensity of stress sources)

ITEMS				
	WALES		TURKEY	
	FEMALE	MALE	FEMALE	MALE
	Mean SD.	Mean SD.	Mean SD.	Mean SD.	F's / d.f.s. / P's
Getting all the paperwork done in time				
	2.11 0.83	1.25 1.17	1.22 1.04	1.33 0.90	**4.11 / 1,77 / p < 0.05**
Having to teach a subject for which you have not been trained				
	1.21 1.01	0.63 0.74	1.41 1.01	2.07 0.73	**6.42 / 1, 74 / p < 0.05**

5.3.4.3. Intensity when controlling frequency

The items which showed interactions between country and gender in terms of intensity also showed interactions between country and gender when intensity was analysed controlling for frequency (see Table 5.3.4.3).

Table 5.3.4.3. Interactions between country and gender in the analyses of individual items (intensity when controlling frequency)

ITEMS				
	WALES		TURKEY	
	FEMALE	MALE	FEMALE	MALE
	Mean	Mean	Mean	Mean
	Se.	Se.	Se.	Se.
F's / d.f.s. / P's				
Getting all the paperwork done in time				
	1.93	1.36	1.26	1.64
6.24 / 1, 76 / p < 0.05	0.13	0.26	0.15	0.20
Having to teach a subject for which you have not been trained				
	1.16	0.81	1.44	2.10
4.42 / 1, 71 / p < 0.05	0.15	0.34	0.19	0.25

5.3.5. Controlling type of school

There were some differences which were due to the comparison of Turkish secondary school teachers and Welsh primary school teachers. These comparisons confound type of school with country. The appropriate comparisons were, therefore, Welsh secondary teachers versus Turkish secondary teachers. Turkish secondary school teachers identified some items as more stressful than Welsh secondary school teachers. More items were reported as producing more intense stress by Turkish secondary school teachers than Welsh secondary school teachers . The items which showed differences between the secondary school teachers in the two countries are shown in Tables 5.3.5.1, 5.3.5.2 and 5.3.5.3.

Table 5.3.5.1. Effects of type of school for the frequency of stress sources

ITEMS TURKEY / Secondary Mean Sd.	WALES / Primary Mean Sd.	WALES / Secondary Mean Sd.	F's / d.f.s. / P's
Inadequacies of school buildings and equipment [3,5]			
1.62	1.00	1.65	**5.14 / 2, 80 / p < 0.01**
0.84	0.74	0.81	
Feelings of inadequacy as a teacher [4]			
0.78	1.35	1.05	**5.53 / 2, 80 / p < 0.01**
0.66	0.72	0.61	
Covering lessons for absent teachers [5,2]			
0.56	0.26	1.70	**31.37 / 2,56 / p<0.001**
0.68	0.45	0.73	
Problems when dealing with students' parents [1]			
0.90	0.78	0.40	**3.72 / 2, 80 / p < 0.05**
0.78	0.60	0.50	
Lack of time to spend with individual pupils [4]			
1.83	2.41	2.30	**6.38 / 2,74 /p<0.01**
0.90	0.50	0.66	
Time pressures [4]			
1.67	2.35	2.10	**6.16 / 2, 75 / p < 0.01**
0.96	0.65	0.72	
Lack of opportunities for professional improvement [1,3]			
1.95	0.96	0.95	**12.51/2,80 / p < 0.001**
0.90	0.98	0.83	
The job interfering with private life [4]			
1.10	1.96	1.45	**5.00 / 2, 79 / p < 0.01**
1.02	1.02	1.05	
Dealing with poorly motivated pupils [3]			
2.05	1.48	2.15	**4.22 / 2,79 / p < 0.05**
0.94	0.79	0.75	
Getting all the paperwork done in time [4]			
1.13	1.91	1.30	**5.42 / 2,80 / p < 0.01**
0.99	0.85	0.87	
Work overload [4]			
1.40	2.26	1.70	**7.21 / 2, 76 / p<0.01**
1.08	0.75	0.80	
Too much paperwork [4]			
1.40	2.22	1.70	**5.31 / 2, 78 / p < 0.01**
1.05	0.74	0.98	
Students who do not to class with necessary materials [3,5]			
1.60	0.75	2.00	**12.98/2, 77 /p < 0.001**
0.78	0.85	0.80	

Table 5.3.5.1. Effects of type of school for the frequency of stress sources (continued)

ITEMS TURKEY / Secondary Mean Sd.	WALES / Primary Mean Sd.	WALES / Secondary Mean Sd.	F's / d.f.s. / P's
Lack of co-operation on the part of parents [1]			
1.72	1.30	0.85	**7.09 / 2, 79 / p < 0.01**
0.94	0.77	0.75	
Problems with students' behaviour outside the classroom [1,3]			
1.29	0.83	0.85	**3.87 / 2,78 / p < 0.05**
0.73	0.78	0.67	
Lack of concern about problems by senior staff [3]			
1.11	0.57	0.80	**3.18 / 2,77 / p < 0.05**
0.88	0.79	0.77	
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned [1]			
1.15	0.59	0.47	**6.77 / 2,75 / p< 0.01**
1.04	0.73	0.51	
Dealing with mixed ability groups [4]			
1.33	2.04	1.79	**5.85 / 2,79 / p < 0.01**
0.73	0.88	0.98	

[1] = Turkey (secondary school teachers) > Wales (secondary school teachers)
[2] = Turkey (secondary school teachers) < Wales (secondary school teachers)
[3] = Turkey (secondary school teachers) > Wales (primary school teachers)
[4] = Turkey (secondary school teachers) < Wales (primary school teachers)
[5] = Wales (secondary school teachers) > Wales (primary school teachers)
[6] = Wales (secondary school teachers) < Wales (primary school teachers)

Table 5.3.5.2. Effects of type of school for the intensity of stress sources

ITEMS TURKEY / Secondary Mean Sd.	WALES / Primary Mean Sd.	WALES / Secondary Mean Sd.	F's / d.f.s. / P's
Inadequacies of school buildings and equipment [1,3]			
1.69	1.04	1.05	**6.21 / 2,79 / p < 0.01**
0.86	0.83	0.76	
Dealing with long hours work [4]			
1.37	2.05	1.74	**4.87 / 2,76 / p < 0.05**
0.82	0.79	0.87	
Noise and other disturbances from neighbouring classes [1]			
1.18	0.61	0.40	**5.12 / 2,79 / p < 0.01**
1.05	1.08	0.60	
Covering lessons for absent teachers [5,3]			
0.82	0.09	1.27	**13.85 / 2,53 / p<0.001**
0.99	0.29	0.81	
Dealing with large classes [3]			
2.00	1.09	1.68	**5.62 / 2, 76 / p < 0.01**
0.96	1.02	1.11	
Time pressures [1,3]			
1.47	2.30	1.95	**7.26 / 2,78 / p < 0.01**
0.89	0.70	0.89	
Lack of opportunities for professional improvement [1,3]			
1.87	0.78	0.95	**17.75/2, 79/ p < 0.001**
0.80	0.67	0.83	

Table 5.3.5.2. Effects of type of school for the intensity of stress sources (continued)

ITEMS TURKEY / Secondary Mean Sd.	WALES / Primary Mean Sd.	WALES / Secondary Mean Sd.	F's / d.f.s. / P's
Problems due to lack of training [1]			
1.37	1.09	0.58	**6.71 / 2, 74 / p<0.01**
0.97	0.67	0.69	
Getting all the paperwork done in time [4, 2]			
1.26	2.30	1.55	**9.11 /2, 78 / p < 0.001**
0.98	0.70	1.05	
Work overload [4]			
1.59	2.38	1.80	**5.38 / 2, 77 / p < 0.01**
0.91	0.67	1.06	
Too much paperwork [4]			
1.49	2.30	1.63	**5.66 / 2,78 / p < 0.01**
0.99	0.70	1.07	
Students who do not come to class with necessary materials [1, 5]			
1.90	0.46	1.30	**23.26/2,78 / p < 0.001**
0.79	0.74	0.87	
Lack of co-operation on the of parents [3, 6]			
1.67	1.04	0.79	**8.98 / 2,78 / p < 0.001**
0.84	0.83	0.71	
Problems with students' behaviour outside the classroom [1]			
1.32	0.87	0.75	**3.61 / 2,78 / p < 0.05**
0.81	0.97	0.79	
Lack of concern about problems by senior staff			
1.14	0.61	0.70	**3.19 / 2,75 / p < 0.05**
0.97	0.84	0.66	
Not enough praise and encouragement for your efforts by Heads of Departments [1]			
1.13	0.74	0.50	**3.75 / 2,76 / p < 0.05**
0.94	0.84	0.66	
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned [3]			
1.26	0.57	0.61	**5.85 / 2, 77 / p < 0.01**
0.91	0.84	0.85	
Lack of professional assessment [1]			
1.19	0.74	0.55	**6.74 / 2, 77 / p < 0.01**
0.74	0.62	0.61	
Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc. [6]			
1.32	1.65	0.79	**6.18 / 2, 77 / p < 0.01**
0.76	0.94	0.63	
Threats of physical violence from a student [3]			
0.83	0.17	0.42	**4.77 / 2,56 / p<0.05**
1.08	0.39	0.90	

Table 5.3.5.2. Effects of type of school on the intensity of stress sources (continued)

ITEMS TURKEY / Secondary Mean Sd.	WALES / Primary Mean Sd.	WALES / Secondary Mean Sd.	F's / d.f.s. / P's
Lack of opportunities to express your point of view in school decision - making [3]			
1.27	0.70	0.75	**4.24 / 2, 74 / p < 0.05**
0.93	0.70	0.72	
Having to teach a subject for which you have not been trained [1]			
1.67	1.32	0.85	**4.67 / 2, 75 / p < 0.05**
0.96	0.78	1.14	
Visits from government (or other) inspectors which include inspections of your classroom teaching [4]			
0.88	1.82	1.17	**4.80 / 2, 71 / p < 0.05**
1.07	1.14	1.15	

[1] = Turkey (secondary school teachers) > Wales (secondary school teachers)
[2] = Turkey (secondary school teachers) < Wales (secondary school teachers)
[3] = Turkey (secondary school teachers) > Wales (primary school teachers)
[4] = Turkey (secondary school teachers) < Wales (primary school teachers)
[5] = Wales (secondary school teachers) > Wales (primary school teachers)
[6] = Wales (secondary school teachers) < Wales (primary school teachers)

Table 5.3.5.3. Effects of type of school on the intensity of stress sources when controlling frequency

ITEMS TURKEY / Secondary Mean Se.	WALES / Primary Mean Se.	WALES / Secondary Mean Se.	F's / d.f.s. / P's
Inadequacies of school buildings and equipment [1]			
1.57	1.35	0.93	**6.83 / 2,78 / p < 0.01**
0.10	0.14	0.14	
Dealing with long hours work			
1.43	1.91	1.78	**3.46 / 2, 75 / p < 0.05**
0.12	01.6	0.16	
Noise and other disturbances from neighbouring classes			
1.05	0.69	0.56	**3.50 / 2, 78 / p < 0.05**
0.12	0.16	0.15	
Covering lessons for absent teachers			
0.91	0.42	0.70	**3.38 / 2, 72 / p < 0.05**
0.12	0.15	0.16	
Lack of opportunities for professional improvement [3]			
1.66	0.98	1.15	**6.58 / 2, 78 / p < 0.01**
0.12	0.15	0.16	

Table 5.3.5.3. Effects of type of school on the intensity of stress when controlling frequency (continued)

ITEMS TURKEY / Secondary Mean Se.	WALES / Primary Mean Se.	WALES / Secondary Mean Se.	F's / d.f.s. / P's
Getting all the paperwork done in time			
1.40	2.01	1.62	**4.14 / 2, 77 / p < 0.05**
0.12	0.16	0.17	
Dealing with high noise levels			
1.85	1.41	1.42	**4.10 / 2, 78 / p < 0.05**
0.11	0.14	0.16	
Students who do not come to class with necessary materials [1, 3]			
1.84	0.85	1.05	**15.66/2, 75/ p < 0.001**
0.11	0.17	0.17	
Lack of co-operation on the of parents			
1.54	1.08	0.99	**4.14 / 2, 77 / p < 0.05**
0.12	0.15	0.18	
Lack of professional assessment			
1.14	0.80	0.57	**5.13 / 2, 74 / p < 0.01**
0.11	0.14	0.15	
Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc. [6]			
1.37	1.57	0.85	**5.17 / 2, 75 / p < 0.01**
0.12	0.16	0.17	
Threats of physical violence from a student			
0.71	0.18	0.52	**3.25 / 2, 73 / p < 0.05**
0.13	0.16	0.18	
Lack of opportunities to express your point of view in school decision - making			
1.21	0.75	0.79	**4.04 / 2, 72 / p < 0.05**
0.12	0.14	0.15	
Having to teach a subject for which you have not been trained			
1.68	1.24	0.94	**4.41 / 2, 72 / p < 0.05**
0.15	0.19	0.21	
Visits from government (or other) inspectors which include inspections of your classroom teaching [4]			
0.90	1.84	1.03	**6.96 / 2, 65 / p < 0.01**
0.17	0.20	0.23	

[1] = Turkey (secondary school teachers) > Wales (secondary school teachers)
[2] = Turkey (secondary school teachers) < Wales (secondary school teachers)
[3] = Turkey (secondary school teachers) > Wales (primary school teachers)
[4] = Turkey (secondary school teachers) < Wales (primary school teachers)
[5] = Wales (secondary school teachers) > Wales (primary school teachers)
[6] = Wales (secondary school teachers) < Wales (primary school teachers)

5.3.6. The results of perceived subjective stress (PSS)

No significant differences were found for the PSS scores of Turkish and Welsh newly graduated teachers (F= 0.06 , df=1,75, p=NS ; mean (for Turkish sample)= 25.00, sd=5.36 and mean (for Welsh sample)= 25.76, sd=7.54). This result suggests that differences in perceived stress between the countries may be largely restricted to older workers.

The results showed a positive correlation between job stress (total frequency and total intensity) and perceived subjective stress (PSS) for both the Turkish sample { r(totfreq.)=0.5308, n-2=38, p<0.001 ; r(totint.)=0.4605, n-2=38, p < 0.01 } and Welsh sample {r(totfreq.}=0.5732, n-2=41, p < 0.001; r(totint.)=0.7136, n-2=41, p < 0.001 }.

5.4. DISCUSSION

In this chapter, the following main predictions were made on the basis of the previous studies in this thesis and from studies of teacher stress.

1. There would be no differences between the countries in the overall frequency and intensity of stress scores.
2. Selective differences between the countries would be found. These would largely reflect the type of stress rather than gender and types of school.
3. There would be differences reflecting both frequency of exposure to stress and response to it.
4. Stress at work would not be related to the global ratings of stress.

As predicted, overall differences between Wales and Turkey were not found. On the other hand, as predicted, selective differences were found between the countries in terms of frequency of stress, intensity and intensity when controlling frequency.

Regarding frequency, it seems that Welsh newly graduate teachers reported more often problems related to work overload , time pressure , punishing students, student misbehaviour and insecurity about knowledge whereas

Turkish newly graduated teachers identified stress mostly associated with lack of support .

When considering intensity, 'pupil misbehaviour' and items which were related to 'work overload / time pressure', were rated as more stressful by Welsh teachers, whilst Turkish teachers complained more about the 'classroom discipline', 'lack of good working conditions' and 'lack of support'.

The items which were related to 'work overload', still held up in the analyses of intensity controlling frequency. Similarly, the items which were associated with 'lack of good working conditions', 'lack of support' and 'dealing with students behaviour', still held up when frequency was covaried.

As expected, the results showed that there were some differences between the frequency and intensity of job related stress sources. 'Lack of time to spend with individual pupils' , 'getting all the paperwork done in time', 'the job interfering with private life' were more commonly reported by Welsh newly graduated teachers whereas 'time pressures', 'work overload', 'too much paperwork' were identified as leading to great stress. Considering intensity when controlling frequency, 'dealing with long working hours', 'time pressures', 'getting all the paperwork done in time' were found to be more stressful by Welsh newly graduated teachers. On the other hand, Turkish teachers found that 'lack of opportunities for professional improvement', 'lack of real understanding by Heads of Departments', 'lack of co-operation on the part of parents" were frequent sources of stress whereas " dealing with large classes', 'dealing with high noise levels' and 'inadequate salary' were led to intense stress. Regarding intensity when controlling frequency, 'inadequate salary', 'dealing with high noise levels', and 'dealing with large classes' were found to be more stressful by Turkish newly graduated teachers.

The overall stress results of this study did not support the findings of previous cross- cultural studies on teachers (e.g. Dunham, 1980; Gaziel, 1993) which showed that more stress situations were identified in one country than another. On the other hand, the individual items supported the results of the Tokar et al. (1986) study which showed differences between the countries in terms of identification of occupational stress sources among teachers. The items found more stressful by Welsh newly graduate teachers confirm the Borg' (1990) categorisation in which ' pupil behaviour ' (e.g. discipline, misbehaviour, poor motivation) and 'work overload' (e.g. having too much work to do, meetings deadline) were found as the first two major stress categories. The data from the present study, also partly support previous results from newly graduated teachers (Taylor - Dale, 1971; Kyriacou and Sutcliffe, 1978, Basford, 1982 and Veenman, 1984) , which showed 'classroom discipline ' to be the major stress source.

Finally, as in the second study, there was no significant difference between Turkish and Welsh newly graduated teachers in terms of perceived stress scale. Unlike senior house officers, junior house officers and newly graduated teachers are at the beginning of their working life. In addition, they were mostly single, and would have fewer family commitments, which may in some cases mean they have less stress from sources outside of work.

5.5. OVERVIEW OF THE RESULTS OF THE FIRST FOUR STUDIES

The following summary gives the major findings the first four studies' results:

1. In general, except for the first study, there were no overall differences between the two countries.

2. There were country differences but these differences were selective, depending on the nature of the stressor.

3. There were differences between exposure to stress and intensity of stress. In other words, frequent stressors were not always the most intense and vice versa.

4. There were relatively few interactions between country and other modifying factors.

5. Country differences emerged for the perceived stress scale only for older workers.

As mentioned above, there were selective differences between the two countries. Although the three studies were carried out among junior house officers, senior house officers and newly graduated teachers in the UK and Turkey, some of the results are consistent. For example, 'lack of respect that you deserve from the general public ' which was related to lack of support, was always found more stressful by Turkish junior and senior house officers . Similarly, 'lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned' which was also related to lack of support , caused more stress in Turkish newly graduated teachers . In contrast, ' dealing with long working hours ' which was related to work overload, always caused great stress in British junior and senior house officers, and 'too much paper work done ', which was also related to work overload, was found more stressful by Welsh newly graduated teachers.

Therefore, in general, it is possible to state that Welsh and English subjects complained about the items more associated with work overload and insecurity about their knowledge / skills whilst Turkish sample reported the items more related to lack of support and good working conditions.

Apart from these categorisations, there were also certain items , which were often identified as more stressful by Turkish medical professionals such as 'dealing with your friends as patients' and 'dealing with your relatives as patients' . Similarly, the item like 'interruptions of the work by other

people's phone calls' was found often more stressful by British JHOs and SHOs.

These results are discussed below from two different perspectives:
From a cross-cultural perspective, as mentioned in the previous chapters, Turkey was defined as collectivist country with , values like getting support from friends, relatives etc. , being really important in Turkish society. In addition, economic and political uncertainty in Turkey is higher than in the UK. Because of the these differences, it might be the case that Turkish JHOs, SHOs and newly graduated teachers need more support from other people to help do their job than do their British colleagues. On the other hand, other specific items such as 'dealing with your friends as patients' and 'dealing with your relatives as patients' can be explained by characteristics of the Turkish sample which worked in their home area. Similarly, 'interruptions of the work by other people's phone calls ' can be explained by better phone facilitates in the UK than Turkey.
Alternatively, the results of the all four studies might be also be explained by differences in features of the jobs in the two countries. As Keinan and Perlberg (1987) stated, it is almost impossible to identify an identical occupation in two separate cultures. Indeed, considering the studies in this thesis, it is clear that the working practices of JHOs and SHOs, and newly graduated teachers are different in the two countries. Because of this, pressures and stresses might be different for Turkish subjects than British ones.
Although the results have been discussed from two different perspectives, it is still difficult to interpret them for several reasons. First of all, it is difficult to determine whether the real reason for these results is cultural difference . Since individualism / collectivism measurements were not taken from the subjects in these studies, it is not clear whether the distinction which was mentioned above, applies to the samples being studied.

Similarly, it is also difficult to determine whether the real reason for these results is differences in job demands or both cultural differences and differences in the features of jobs in two countries.

Secondly, as was mentioned earlier, since there are no previous cross - cultural studies comparing junior house officers , senior house officers and newly graduated teachers in Turkey and the UK, there is no opportunity to compare the results to a previous literature.

These difficulties of interpretation of the results of these studies suggest that another way be chosen to look at the stress in the two cultures. The next method investigated whether psycho-social factors operate in the same or different way in the two countries. In the next study, it was decided to examine relationships between psycho-social factors (social support and hassles) and outcome measures (positive-negative mood, health related behaviours etc.) among English and Turkish first year university students.

CHAPTER 6: The relationships between psycho - social factors and physical and mental health in English and Turkish first year university students

6.1. Introduction

The surveys of occupational stress in Turkey and the UK suggested that there are some consistent differences existed between the countries. However, it is difficult to interpret these results, apart from concluding that exposure to stress may differ in the two countries. Alternative methodologies are needed to address the question of whether response to stress rather than exposure to stress differs across cultures. Hence, the next study investigated whether psycho-social factors operate in the same way in the two countries. The relationships between psycho-social factors (social support and hassles) and outcome measures (positive - negative mood, health related behaviours etc.) among English and Turkish first year university students were examined in the next study. The fifth study provided an opportunity to move away from occupational stress studies to an investigation of life stress, and from examination of exposure to stress to response to stress. Another advantage of the fifth study was that the transactional approach was used to investigate stress in the two countries. This model gave a chance to examine possible differences between the countries in terms of variation in the independent variables and also by considering different relationships between these and health outcomes. The use of students also provided an opportunity to eliminate the problems of different jobs in the two countries although, of course, possible confounding factors are still present even when studying students. These confounding factors can be different education system, different library, counselling facilities etc. in both countries. There were also other reasons to use students as subjects. For example, in terms of age they are similar to JHOs and newly graduated teachers which made these

samples comparable. There is also an extensive literature on stress in students.

Previous studies related to stress among university students in general and from cross - cultural perspectives have already been reported in Chapter 1. In addition to this, the relationships between stress and health, social support and health were reported very briefly in the same chapter. These topics are discussed in more detail here . Following this, the relationships between the stress and health - related behaviours, choice of measuring instruments and the aims of the study are discussed.

6.1.1. Hassles and health

Early studies conceptualised stress as resulting from exposure to major life changes or life events. These life events might be cataclysmic events like the death of one's spouse or being fired from a job or more mundane but still problematic events such as moving to a new home. However, more recent studies view stress as resulting from exposure to minor stressful events, or daily hassles and have examined their cumulative impact on health and illness. Such hassles might include troublesome neighbours, misplacing or losing things, or having difficulty making decisions. Indeed, Lazarus (1984) conceptualised hassles as *' experiences and conditions of daily living that have been appraised as salient and harmful or threatening to the endorser's well being'* (p. 376).

Some recent studies suggest that daily hassles proved to be better predictors of symptoms than more major life events. For example, Kanner, Coyne, Schaefer, and Lazarus (1981) reported that hassles were a better predictor of psychological symptoms than major life events. DeLongis, Coyne, Dakof, Folkman, and Lazarus (1982) found that daily hassles were more strongly related to somatic health than life events. Results from studies by Weinberger, Hiner, Tierney (1987), Zika and Chamberlain (1987) and Chamberlain and Zika (1990) also support these findings. A recent

unpublished study (Khan & Patel) examined whether life events and hassles were related to psychological and physical health among different populations. The three sub-groups were students, a general population sample and subjects over the age of 60. Each sub-group included 28 subjects. Their results showed that daily hassles were better predictors of both psychological and physical health than life events. They also found that the same pattern of hassles influencing health outcomes across all the subgroups of subjects. However, Dohrenwend, Dohrenwend, Dodson & Shrout (1984) and Dohrenwend and Shrout (1985) suggested that many studies which have used measures of daily hassles are systematically biased because the stress measures are confounded with measures of psychological distress.

Previous studies found negative effects of hassles on health status. For example, Monroe et al. (1983) examined psychological symptoms in students going to take their final examination. They found that hassles were significantly and positively related to psychological symptoms. Similarly, Weinberger et al., (1987) investigated the impact of daily hassles upon health status in a sample of low - income, elderly with osteoarhritis. Their results showed that daily hassles was associated with negative effect on health status. DeLongis et al., (1988) examined the impact of daily stress on health and mood among married couples and considered whether psychological and social resources modified the effects of stress. They summarised their findings briefly in the following way: ' there was a tendency for an increase in daily hassles to be associated with decline in health and mood '. In general, they also found that the subjects who reported low self -esteem, and low social support , showed a more positive relationship with stress than subjects who were high in these psychological assets. On the other hand, Wu and Lam (1993) examined the relationships between hassles and adaptational outcomes, and also buffering role of social

support among adolescents in Hong Kong. One hundred and twelve subjects participated in the study over 10 consecutive days. The Perceived Social Support Scales- Friends & Family (PSS-FR & Fa; Procidano & Heller, 1983), the General Health Questionnaire (GHQ, Goldberg & Blackwell, 1970), the Daily Health Record (DHR; Verbrugge, 1980; 1983) and the Secondary School Students' Hassles Scale (SSSHS) which was based on the Medical Education Hassles Scale (Wolf et al., 1989) were completed by the subjects. The findings of the study supported previous studies results in that subjects who had poorer health and lower well - being in short term (i.e. symptoms and mood) and long term measures (i.e., overall health status) reported more hassles. However, while perceived social support was related to general health, it did not moderate the relationships between hassles and health. The relationship between social support and health is considered in more detail in the next section.

6.1.2. Social support and health

As mentioned above, early research on life stress mostly considered whether major and minor life events caused any changes in health status. Recently, this interest has switched to examination of the question of why some people seem to be severely affected by life's adversities and others less so. Receiving social support from many different sources such as friends, relatives, has emerged as a possible factor that could explain at least some of the differences in vulnerability to stress.

Social support has been conceptualised in a variety of different ways. House and Khan (1985) suggested that social support can be defined either conceptually or operationally with regard to the existence or quantity of social relationships in general, or other kind of relationships such as marriage, friendship, parenthood or organisational membership in particular. These researchers also stated that social support can also be defined in terms of the structure of a person's social relationships or the functional content of

relationships such as the extent to which the relationships involve emotional concerns, tangible support, information and so forth. In general, the term social support has been used to refer to each of these aspects of relationships, however, most commonly used to refer to their functional content (see House and Khan,1985). Similarly, the term social network is used commonly to refer to the structures existing among a set of relationships whereas terms such as social integration or isolation are used mostly to refer to the existence or quantity of relationships (see House and Khan, 1985).

Researchers have tried to classify various types of support: appraisal support, tangible support, emotional support and information support. Appraisal support includes helping an individual to understand a stressful event better and coping strategies and resources may be gathered to deal with it (see Taylor,1995). Tangible support involves providing material support (see Taylor,1995). Emotional support provides the person with a sense of comfort, belongings, feel valuable etc. (see Sarafino,1994). Finally, information support includes giving directions, advice, or feedback on how the person is doing (see Sarafino, 1994).

Numerous studies have indicated that there are direct and indirect effects of social support on mental and physical health. Previous research suggest that people with high levels of social support may experience fewer mental health problems when they confront a stressful experience. For example, La Rocco, et al., (1980) examined the question of whether social support reduces the impact of occupational stress on job - related strain and health among over 2000 men in a variety of white and blue collar occupations. Emotional and Tangible social support was measured from three sources: supervisor, co-workers and wife and family. Their results showed that the employees who received high levels of social support reported lower psychological strain. Similarly, Goplerud, 1980 examined social support and stress during the first year of graduate school. He found that there was

an inverse relationship between frequency of social interactions with peers and stressful events experienced during their first 6 months of graduate study and the number of emotional and physical problems experienced during that interval. Although socially active students experienced slightly more life changes than the students who were less socially active, the results showed that these events were generally less intense and were disruptive for a shorter period of time than in isolated subjects.

Receiving social support also seems to benefit people's physical health. For example, Lynch (1990) found that widowed, divorced and never married people have higher death rates from heart disease than married people. Similarly, Berkmen and Syme (1979) carried out a study of more than 4,700 men and women (between 30 and 69 years of age) in California , asking them about their social and community ties, and examining whether this was related to mortality rate. The data were collected over a 9 year period. The results showed that the people who had a greater social support, were less likely to die during this period than people who had fewer social contacts.

Researchers have also carried out studies about effects of social support on development and recovery from illness. For example, results showed that 'heart disease and surgery patients with high levels of social support recover more quickly than comparable patients with less support (Fontana, Kerns, Rosenberg & Colonese, 1989 ; Kulik & Mahler, 1989) (cited by Sarafino, 1994 p. 106).

It is possible, therefore, to conclude that social support seems to influence health. The next section will examine how social support influences health.

6.1.3. Conceptualisation of stress and social support

Two alternative models have been suggested to explain the beneficial effects of social support on health. The stress buffering model (Cohen and Wills, 1985) proposes that social support is related to well - being for

people under stress. In other words, this model posits that social support protects individually from the potentially harmful influence of stressful events. The alternative model, the main - effect model (Cohen and Wills, 1985), proposes that social support is generally beneficial during both nonstressful and stressful times. Cohen and Wills (1985) did a literature review to determine whether the positive association between social support and well- being is attributable more to the main effect model or buffering model. Their review showed that studies which assessed the perceived availability of interpersonal resources have been consistently successful in showing evidence of a buffering process. In contrast , studies which examined a person's degree of integration in a large social network showed evidence for the main effect model. Cohen and Wills concluded that ''both conceptualisations of social support are correct in some respects , but each represents a different process through which social support may affect well - being '' (p. 310).

In the present study, it was of interest to examine both main and buffering effects of social support on subjective reports of health among Turkish and English first year university students.

6.1.4. Stress and health - related behaviours

Kasl and Cobb (1966) defined health behaviours as " *any activity undertaken by a person believing himself to be healthy for the purpose of preventing disease or detecting it at an asymptomatic stage* ". Seven features of life style were identified by Belloc and Breslow (Alameda County Study, California, 1972) as being related to morbidity and subsequent long - term survival : " not smoking ", " moderate alcohol intake", "sleeping 7 - 8 hours a night", "exercising regularly", "maintaining a desirable body weight", "avoiding snacks" and "eating breakfast regularly".

Recently, more studies have examined the effects of stress on health related behaviours. These studies can be discussed in two ways , first , stress can

change health related behaviours, and, secondly, some health related factors mediate the effects of stress.

Previous results showed that people who experience high levels of stress are more likely to start smoking again after a period of abstinence than those who experience less stress (Lichtensien et al., 1986; Carey et al., 1993). Similarly, many researchers have suggested that work stress in particular may increase alcohol use (e.g. Gupta and Jenkins 1984). However, Conway et al., (1981) examined the impact of occupational stress on self -reported cigarette, coffee, and alcohol consumption in a longitudinal field study. Their results showed that subjects who showed more high stress, reported more cigarette smoking and coffee drinking but less alcohol consumption. Other results showed that stress can induce eating (Arnow, Kenardy & Agras, 1992; Logue, 1991). In general, it is possible to state that stress may cause an increase in the alcohol consumption, cigarettes , coffee, and eating and a reduction in the amount of exercise taken.

There is evidence for some health related behaviours reducing stress. For example , Ogden (1996) stated that " exercise may influence stress either by changing an individual's appraisal of a potentially stressful event by distraction or diversion (e.g. 'This situation could be stressful, but if I exercise I will not have to think about it '), or may act as a potential coping strategy to be activated once an event had been appraised as stressful (e.g. 'Although the situation is stressful, I shall now exercise to take my mind off things " (p. 143).

Moses et al. (1989) examined the psychological effects of exercise training in sedentary adult volunteers. One hundred and nine subjects were assigned to one of four conditions: high intensity aerobic training, moderate intensity aerobic training, attention - placebo and waiting list. During a 10 week period, before and after training, the subjects were evaluated with psychological measures and the 12 min walk - run test. After 3 months,

follow - up evaluations were undertaken. The results of the study indicated that subjects in the moderate exercise condition reported positive psychological responses, but not those in the high exercise or attention - placebo condition.

Steptoe et al., (1993) investigated effects of exercise on mood. 36 male amateur athletes who exercised for more than 30 minutes at least three times per week, and 36 inactive men who exercised for less than 30 minutes per week. All subjects participated in two exercise sessions and completed measures of mood before and after each exercise session. The results indicated that both maximal and moderate exercise caused beneficial changes in both mental vigour and exhilaration in both sportsmen and inactive men. Therefore, they suggested that 'exercise leads to positive mood changes even among people who are unaccustomed to physical exertion'.

In summary, the present study examined possible differences between countries in the relationships between psychosocial factors, outcome measures of health and health - related behaviours. The measuring instruments used to do this are now described.

6.1.5. Choice of measuring instruments for the present study

The Interpersonal Support Evaluation List (ISEL) (Cohen, Mermelstein, Kamarck & Hoberman, 1984) was used to examine effects of social support. The reason for choosing the ISEL was that interest in perceived levels of social support rather than social networks. Similarly, the hassles scale (Kanner, Coyne, Schaefer, Lazarus, 1981) was chosen to examine how minor life events influence health. The study examined appraisal of stress rather than just exposure to stress and , therefore, the perceived stress scale (PSS) (Cohen, Kamarck & Mermelstein, 1983) was chosen. The profile of fatigue related states (PFRS) (Ray, Weir, Phillips & Cullen, 1992) and mood state this week (MSTW) (Zevon & Tellegen's , 1982) were used as

outcome measures. In addition , a health related behavioural questionnaire (Cohen, Tyrrell & Smith, 1993) was also used to examine health related behaviours.

Another reason for choosing these measures was that most of them have been used before with different samples (students; patients etc.) and have been shown to be reliable measuring instruments.

6.1.6. The aims of the study

The following questions were addressed in this study:

1. Are there differences between the two countries with regard to psycho-social factors , outcome measures and health related behaviours?

2. Are there any differences between the two countries in terms of effects of psycho-social factors on subjective reports of health?

3. Are there any differences between the two countries in the associations between the psycho - social factors , outcome measures and health related behaviours?

4. As study 1 showed some modifying effects of gender on differences in occupational stress between the two countries, it was decided to examine this here to determine whether any differences between the two countries are modified by gender.

6.2. METHOD

6.2.1. Design of the study

A cross- sectional design was used comparing Turkish and English first year undergraduate students. These students completed two psycho - social questionnaires, three outcome measurements, and the health related behaviours questionnaires which are described below.

6.2.2. Subjects

Two hundred ninety three first year university students participated in this study. Seventy six of them were from England and 217 of them were from north of Turkey where the other four studies were carried out. The age range was 16 - 40 years, with a mean of 19 years. Of the Turkish sample, 44 % were female and 56 % were male subjects whereas of the English sample, 60 % were female and 40 % were male subjects. Ninety seven percent of the subjects were single of the both samples. Details of the subjects are given in Table 6.2.1.

6.2.3. Data collection

The procedure of distributing the questionnaires was different in each country. Two hundred twenty five questionnaires were distributed to Turkish first year university students at the end of the lecture by the lecturer in the class. The Turkish students were required to fill in the questionnaires and return them to the lecturer. One hundred percent of the questionnaires were returned. 217 of them were used in the analysis. Eight questionnaires were not used because the questionnaires were not filled in properly. Eighty three English first year university students also filled in the questionnaires. The questionnaire were distributed to the subjects by post and returned to the Health Psychology Research Unit when completed. 76 of the these questionnaires were used. Seven questionnaires were not filled in properly and were not used.

Table 6.2.1. Demographic data {N (England)=76, N(Turkey)=217}

Variable		ENGLAND		TURKEY	
		N	%	N	%
Gender	Female	46	60	96	44
	Male	30	40	121	56
Age	16-21 years old	71	93	199	92
	22-28 years old	-	-	16	7
	> 29 years old	2	3	1	-
	Mean	19.00		18.70	
	sd.	4.19		1.89	
	range(min.-max.)	(40-17)		(16-30)	
	No response	3	4	1	1
Marital Status	Single	74	97	211	97
	Married	2	2	4	3
	Others	-	-	-	-
	No response	-	1	-	-

6.2.4. Measurements

The subjects completed a set of questionnaires which was consisted of the Interpersonal Support Evaluation List (ISEL), Hassles, Profile of Fatigue Related States (PFRS), Mood States This Week (MSTW), Perceived Stress Scale (PSS), Health Related Behavioural Questionnaires and Personal Details.

Once again, the all questionnaires were translated from English to Turkish and back translated by three Turkish university students who were doing PhDs in the University of Bristol.

Detailed information about the questionnaires used in the present study is given below:

1. Interpersonal Support Evaluation List (ISEL): The 48 -item ISEL for college students was developed by Cohen and Hoberman (1983) and a 40 -

item ISEL for noncollege populations was developed by Cohen, Mermelstein, Kamarck & Hoberman (1984). In this study, the 40 - item ISEL was used (see Appendix E). The ISEL was designed to evaluate the perceived availability of four separate functions of support, namely appraisal support, self - esteem support, belonging support, and tangible support. The researchers carried out cross-sectional and some longitudinal correlation's of the ISEL (total score and subscales) with mental and physical health. They reported that except for tangible support, these measures buffer the relationship between stress and health.

Each scale consisted of 10 items. The responses to these questions made on a four point scale: 1= definitely false, 2= probably false, 3= probably true, 4= definitely true. The psychometrics are adequate and reported in the original paper.

2. Hassles: The hassles scale measures irritating and distressing demands. The questionnaire was developed by Kanner, Coyne, Schaefer, Lazarus (1981). It included 117 items (see Appendix F). The responses are made on three point scale which are 1= somewhat severe, 2= moderately severe and 3= extremely severe . The subjects are asked to mark the items only which are caused a problem within a specified time period and if it did not occur then the subjects are asked not to mark. Hassles are calculated in three ways.

a) Frequency= This is a simple addition of the number of items that are endorsed by the participants, the range is from 0 -117.

b) Cumulative severity= This is the sum of the 3 point severity rating and the range is from 0-351(3 x 117).

c) Intensity= This is a measure of the cumulative severity divided by the frequency, the range is 0-3.

The psychometric data can be found in Kanner, Coyne, Schaefer, Lazarus, 1981.

3. The Profile of Fatigue - Related States (PFRS): This questionnaire was developed by Ray, Weir, Phillips & Cullen (1992) and has 54 items (see Appendix G). The PFRS has 4 sub - scales which evaluate emotional distress (ED -pfrs), cognitive difficulty (CD- pfrs), Fatigue symptoms (fatigue- pfrs), and somatic symptoms (SS-pfrs). Each scale consists of a different number items. The items were rated on a seven point scale: 0= not at all, 1= a little, 2= moderately, 3= quite a bit, 4= extremely. The psychometric data appears in Ray, Weir, Phillips & Cullen , 1992.

4. Mood States This Week (MSTW): This check-list was taken from Zevon & Tellegen's (1982) list (see Appendix H). This scale included two sub-scales which consisted of list of positive and negative emotional items. The subjects was asked how they have been feeling during the past week. The responses were scored on a 5 point Likert scale : 0= not at all, 1= a little, 2= moderately, 3= quite a bit , 4= extremely. The psychometric data are reported in the original paper.

5. The Health Related Behaviours : Cohen, Tyrrell & Smith (1993), used a questionnaire which measured smoking, alcohol intake, sleep, eating and drinking and exercise. A modified version of this was used here. Interest was focused on three types of behaviour: smoking, sleep disturbance and exercise. Others were not considered either because it was difficult to make predictions about them or became they were inappropriate for one of the samples (e.g. the Turkish students did not drink alcohol) (see Appendix I).

6. Demographics: This questionnaire included questions about subjects' age, gender, marital status.

6.3. RESULTS

Analysis of variance , co-variance, and factor analysis were carried out in this study. Unequal variances were dealt with as in previous sections.

6.3.1. Organization of measures

Factor analysis was carried out to see whether the psycho - social factors and outcome measures were grouped into meaningful factors in England and Turkey (in a same or different way).

6.3.1.1. Psycho - social factors

Factor analysis of both sets of data yielded 2 factors (social support and hassles) accounting for nearly 70 % of the variance (see Table 6.3.1.1). Similarly, two factors (social support and hassles) emerged accounting for about 70 % of the variance for Turkish sample and accounting for 66 % of the variance for English sample (see Table 6.3.1.1).

Table 6.3.1.1. Factor analysis of psycho - social factors

ENGLAND		TURKEY		BOTH	
Factor 1	**Loadings**	**Factor 1**	**Loadings**	**Factor 1**	**Loadings**
ISEL T	0.87	ISEL B	0.86	ISEL B	0.86
ISEL B	0.85	ISEL A	0.83	ISEL A	0.83
ISEL A	0.83	ISEL S	0.82	ISEL T	0.81
ISEL S	0.62	ISEL T	0.79	ISEL S	0.68
Factor 2	**Loadings**	**Factor 2**	**Loadings**	**Factor 2**	**Loadings**
cum- sev	0.99	cum-sev	0.99	cum-sev	0.99
frequency	0.92	frequency	0.97	frequency	0.92
				intensity	0.56

*** Psycho-social factors:**
ISEL: Interpersonal support evaluation list; **ISELA:** Isel-appraisal; **ISELT:** Isel-tangible ; **ISELS:** Isel -self esteem; **ISELB:** Isel-belonging
Hassles : cum-sev: cumulative severity; frequency ; intensity

6.3.1.2. Outcome measures

One factor appeared accounting for 65 % of the variance for English sample and accounting for 67 % of the variance for both sets of data . On the other hand, factor analysis yields two factors (pfrs ; mstw and pss) accounting for 78 % of the variance for Turkish sample (see Table 6.3.1.2).

Table 6.3.1.2. Factor analysis of outcome measures

ENGLAND		TURKEY		BOTH	
Factor 1	**Loadings**	**Factor 1**	**Loadings**	**Factor 1**	**Loadings**
ED- pfrs	0.91	SS- pfrs	0.89	ED -pfrs	0.90
neg.-mood	0.83	Fatigue - pfrs	0.85	CD -pfrs	0.85
pss	0.83	CD- pfrs	0.84	neg. - mood	0.85
CD - pfrs	0.80	ED - pfrs	0.63	fatigue - pfrs	0.82
pos. - mood	-0.75			SS - pfrs	0.79
SS - pfrs	0.75			pss	0.79
fatigue - pfrs	0.74			pos. - mood	-0.69
		Factor 2	**Loadings**		
		pos.-mood	-0.85		
		pss	0.82		
		neg. - mood	0.79		

***: Outcome measures**
MSTW: Mood state this week; pos.-mood: positive mood; neg.-mood: negative mood
PFRS: Profile fatigue related syndrome ; ED-pfrs: Emotional distress; Fatigue -pfrs; CD-pfrs: Cognitive difficulties; SS-pfrs: Somatic symptoms ; **PSS:** Perceived subjective stress

6.3.2. The differences between Turkish and English first year university students in terms of psycho - social factors and outcome measures and health related behaviours

Analysis of variance was applied to see whether there were any differences between Turkish and English first year undergraduate students in terms of psycho - social factors and outcome measures and health related behaviours.

6.3.2.1. PSYCHO-SOCIAL FACTORS

6.3.2.1.1. Interpersonal Support Evaluation List (ISEL)

The results showed that there were differences between the two countries in terms of the total score and some of the sub - scales of ISEL questionnaire

namely tangible, belonging support (see Table 6.3.2.1). Generally, the Turkish students reported lower levels of social support. This result confirms the view, developed from the earlier findings, that perception of support may differ in the two countries.

Table 6.3.2.1. Differences between English and Turkish first year undergraduate students in terms of the ISEL

Scales	ENGLAND Mean / sd.	TURKEY Mean / sd.	F's / d.f.s / P's
ISEL A	31.89 / 5.64	30.59 / 6.65	2.30 / 1,285 / p = NS
ISEL S	30.49 / 4.21	31.01 / 3.57	1.01 / 1, 278 / p = NS
ISEL T	31.15 / 3.58	27.70 / 5.32	37.81/1,202/ p < 0.001
ISEL B	33.22 / 4.53	30.80 / 0.37	12.26 / 1,280 / p < 0.001
TOT - ISEL	126.55 / 1.81	120.57 / 1.31	6.41 / 1, 247 / p < 0.05

ISELA: Isel-appraisal; **ISELT:** Isel-tangible ; **ISELS:** Isel -self esteem; **ISELB:** Isel-belonging **TOT-ISEL:** Total isel

6.3.2.1.2. Hassles

The results demonstrated that there were differences between the two countries in terms of the cumulative severity, frequency and intensity of hassles (see Table 6.3.2.2). The Turkish students reported more frequent, intense and severe hassles than the English.

Table 6.3.2.2. Differences between English and Turkish first year undergraduate students in terms of the Hassles

Scales	ENGLAND Mean / sd.	TURKEY Mean / sd.	F's / d.f.s / P's
cumulative- sev	28.79 / 27.01	67.06 / 40.65	69.21/1,206/ p < 0.001
frequency	19.65 / 19.90	35.95 / 19.51	34.16 /1,217/ p < 0.001
intensity	1.44 / 0.34	1.84 / 0.42	58.66 /1,181/ p < 0.001

6.3.2.2. OUTCOME MEASURES

6.3.2.2.1. Profile Fatigue Related Syndromes (PFRS)

Differences between Turkish and English first year undergraduate students were found with regard to each sub scale of the PFRS questionnaire. Turkish students experienced more emotional distress, cognitive difficulty, fatigue and somatic symptoms than the English students (see Table 6.3.2.3).

Table 6.3.2.3. Differences between English and Turkish first year undergraduate students in terms of PFRS

Scales	ENGLAND Mean / sd.	TURKEY Mean / sd.	F's / d.f.s / P's
ed - pfrs	34.95 / 16.15	54.69 / 19.69	73.39 / 1,162 / $p < 0.001$
fatigue -pfrs	29.27 / 14.22	40.16 / 17.64	28.42 / 1,161 / $p< 0.001$
cd - pfrs	27.78 / 12.18	37.61 / 13.12	34.97/1,142 / $p< 0.001$
ss - pfrs	27.43 / 11.30	38.03 / 16.01	38.51/1,189 / $p < 0.001$

* **PFRS:** Profile fatigue related syndrome ; **ED-pfrs:** Emotional distress; **Fatigue -pfrs;** **CD-pfrs:** Cognitive difficulties; **SS-pfrs:** Somatic symptoms

6.3.2.2.2. Mood State This Week (MSTW)

The results indicated that there was a difference between Turkish and English first year undergraduate students in terms of positive and negative mood (see Table 6.3.2.4), with English students reporting more positive mood than Turkish students.

Table 6.3.2.4. Differences between English and Turkish first year undergraduate students in terms of MSTW

Scales	ENGLAND Mean / sd.	TURKEY Mean / sd.	F's / d.f.s / P's
Positive mood	33.41 / 9.11	31.03 / 8.75	4.02 / 1, 286 / $p < 0.05$
Negative mood	18.83 / 9.87	27.55 / 11.16	36.08/ 1, 282 / $p < 0.001$

6.3.2.2.3. Perceived stress scale (PSS)

Differences emerged between English and Turkish university students in terms of perceived stress scores (F=39.56, df=1, 277, p < 0.001). Turkish students (mean= 27.96, sd=7.24) reported more stress than English students (mean=21.74, sd= 7.64).

6.3.2.3. Health Related Behaviours

The Turkish and English students did not differ in their smoking or in terms of whether they felt rested from their sleep. However, the English students spent more time exercising as shown in Table 6.3.2.5.

Table 6.3.2.5. Differences between English and Turkish first year university students in terms of health related behaviours (categorical responses)

Items	ENGLAND mean /sd.	TURKEY mean /sd	F's /d.f.s/P's
smoking (Yes)	15 %	21 %	1.62 / 1,291 / p=ns
sleep	2.12 / 0.83	2.25 / 0.80	1.48 / 1,290 / p=ns
exercise	3.90 / 1.25	2.63 / 1.58	40.27/1,291/p<0.001

***: Health Related Behaviours**

smoking: Do you smoke at least one cigarette a day?

sleep: How often do you feel rested from your nights sleep? 0=never; 1=almost never; 2=sometimes; 3=fairly often; 4= very often. When statistical analysis was carried out, this item was categorised as **A:** almost never ; **B:** sometimes ; **C:** fairly or very often.

exercises: Which of the following best describes your current exercise pattern: I don't exercise and I don't intend to start ; I don't exercise but I'm thinking about starting; I exercise once in a while but not regularly; I exercise regularly but started only recently; I exercise regularly (for longer than 6 months); I've exercised regularly in the past but not know. When statistical analysis was carried out, this item was categorised as **less exercise** and **more exercise**

6.3.2.4. Summary

Students in the two countries reports different levels of stress, social support, health and health related behaviours.

In the next section , the data was analysed to see whether the relationships between these factors vary in the two countries.

6.3.3. Effects of Social Support (Tot- Isel) and Hassles (frequency) on outcome measures and health related behaviours

The literature about hassles and health, leads to the prediction that the subjects who reported more hassles will show high levels of symptoms. On the other hand, the literature on social support predicts that the subjects who report more social support, will show lower levels of symptoms (either all the time or when stressed). Analyses of variance were conducted including the factors of country, level of hassles (high and low groups split at the median) and level of social support (high and low groups split at the median).

6.3.3.1. OUTCOME MEASURES

6.3.3.1.1. MSTW (Positive / Negative mood)

The main effect of country was found for negative ($F=8.10$, $df=1,179$, $p<0.01$) but not for positive mood ($F=0.84$, $df=1,81$, p=ns).

Significant effects of total social support were found for both positive ($F=17.28$, $df=1, 181$, $p < 0.001$) and negative mood ($F=7.32$, $df=1, 179$, $p < 0.01$). Similarly, there were effects of hassles frequency on positive mood ($F=6.92$, $df=1, 181$, $p < 0.01$) and negative mood ($F=35.28$, $df=1, 179$, $p < 0.001$). These relationships between TOT - ISEL, frequency, and positive / negative moods is presented in Table 6.3.3.1. However, no significant total-isel x frequency nor country x total -isel x frequency interactions were found either of positive or negative mood.

6.3.3.1.2. PFRS (ED- pfrs; Fatigue - pfrs; CD - pfrs; SS - pfrs)

The main effect of country was significant for all sub-scales of pfrs : ed-pfrs ($F=23.57$, $df=1,176$, $p < 0.001$), fatigue -pfrs ($F=7.71$, $df=1, 178$, $p < 0.01$), cd- pfrs ($F=10.62$, $df=1,81$, $p < 0.01$) and ss-pfrs ($F=9.08$, $df=1,179$, $p < 0.01$).

An effect of total social support was found only for ED -pfrs (F=5.54, df=1,176 , p < 0.05). Effects of frequency were found for all sub - scales of pfrs : ED - pfrs (F=34.97, df=1, 176, p < 0.001); Fatigue - pfrs (F=10.02, df=1, 178, p < 0.01) ; CD-pfrs (F=17.75, df=1,181, p < 0.001); SS-pfrs (F=9.71, df=1,179, p < 0.01) (see Table 6.3.3.1 for the relationships between TOT-ISEL, Frequency and PFRS). However, the frequency x total -isel and country x frequency x tot - isel interactions were not significant for either of the any sub -scales of PFRS.

6.3.3.1.3. PSS

The main effect of country was significant for the perceived stress scale (F=11.12, df=1,77, p < 0.001). Effects of social support (f=20.89, df=1, 177, p < 0.001), and frequency were found for PSS as well (F=24.49, df=1,177, p < 0.001). However, there was no interaction between frequency x tot-isel and country x tot-isel x frequency for the PSS (see Table 6.3.3.1 for the relationships between TOT-ISEL, Frequency and PSS).

Table 6.3.3.1. The effects of the level of social support and frequency of hassles on outcome measures for the Turkish and English samples

	TURKEY				ENGLAND			
Outcome measures	LT-LFrq. mean /sd.	LT.-HFrq. mean / sd.	HT-LFrq. mean / sd.	HT -Hfrq. mean / sd.	LT-LFrq mean / sd.	LT-HFrq. mean / sd.	HT-LFrq. mean / sd.	HT-HFrq. mean / sd.
Positive mood	30.90 6.56	28.02 6.80	33.90 7.89	31.78 9.87	30.95 8.46	25.80 9.81	38.60 7.54	34.29 6.97
Negative mood	26.45 11.76	32.27 10.01	21.60 7.42	28.31 11.56	17.75 9.31	31.70 9.00	13.80 6.01	26.57 10.06
Emotion. diff. -pfrs	48.68 18.28	65.16 18.15	49.95 18.38	54.94 20.85	31.54 14.01	59.00 11.22	26.77 9.79	45.71 11.94
Fatigue - pfrs	33.89 17.16	47.48 17.73	38.76 16.85	36.97 15.79	28.96 15.11	40.30 15.93	23.73 10.08	34.43 12.29
Cognitive diff. -pfrs	30.25 11.52	42.68 13.93	37.71 12.68	36.69 12.65	25.70 10.58	38.90 9.73	22.87 10.48	33.00 10.02
Somatic sym -pfrs	31.90 13.93	42.33 16.49	34.32 17.83	39.06 13.76	27.25 13.92	35.00 8.79	24.60 9.22	31.71 11.77
Perceived stress	28.24 6.95	31.41 6.70	23.80 6.24	26.88 7.41	22.21 6.06	31.30 4.55	17.13 6.61	24.43 7.73

*LT - LFrq.: Low total support - Low frequency ; LT - HFrq.: Low total support - High frequency ; HT - LFrq.: High total support - Low frequency ; HT - HFrq.: High total support - High frequency

6.3.3.3. Summary

Social support (Tot -ISEL) and hassles (frequency) were associated with the outcome measures. In both countries, those who reported high social support (Tot -ISEL) and less hassles (frequency), had high positive - mood and lower negative - mood scores. Similarly, those who reported low total social support and high hassles (frequency), had higher scores for all sub - scales of profile fatigue related syndrome (pfrs) and perceived subjective stress scale (pss). Further analyses on the relationship between social support and stress and health were also carried out using the other sub-scales of ISEL and hassles. The results were very similar to the relationships described in this section. In other words, psycho-social factors influenced physical and mental health outcomes and operated in same way in the two cultures.

6.3.3.4. HEALTH RELATED BEHAVIOURS

The previous literature on stress and health related behaviours suggested that subjects who showed more stress, would report more cigarette smoking, greater disturbance of sleep and would exercise less. This section examined whether these relationships existed and whether they were the same in both countries.

Analyses of variance distinguishing country and the health - related behaviours were carried out. With regard to smoking, the analyses showed that smokers had higher social support scores but that smoking status was not related to stress or health outcomes. No interactions between country and smoking status were significant. The smoking data is shown in Table 6.3.3.2.

The sleep data showed that those who felt rested after their sleep had higher levels of social support, less hassles, less perceived stress and less physical and mental health problems (see Table 6.3.3.3). Again, there were no interactions between country and sleep category.

Exercise was not related to the psychosocial factors or health - outcomes (see Table 6.3.3.4).

Table 6.3.3.2. Effects of psycho-social factors and outcome measures on health related behaviours (smoke) for the Turkish and English samples

smoking	ENGLAND NO mean / sd.	ENGLAND YES mean / sd.	TURKEY NO mean / sd.	TURKEY YES mean / sd.	F's / d.f.s / P's Country effect Smoke effect Country x smoke int.
ISELA	31.15 / 5.78	35.27 / 4.52	29.99 / 6.68	32.82 / 6.26	2.37/1,276/p=ns 8.77/1,276/p<0.01 0.30/1,276/p=ns
ISELT	30.72 / 3.80	33.09 / 2.02	27.45 / 5.53	28.93 / 4.41	42.12/ 1,86/p<0.001 10.66/1,84/p<0.01 0.24 / 1,259/p=ns
ISELB	32.43 / 4.57	36.73 / 3.00	30.42 / 5.45	32.39 / 4.44	11.53/1,270/ p<0.001 11.21/1,270/p<0.001 1.56/1,270/p=ns
ISELS	30.21 / 4.40	31.64 / 3.44	30.81/3.54	31.84 / 3.69	0.34/1,268/p=ns 3.11/1,268/p=ns 0.08/1,268/p=ns
TOT-ISEL	124.11/15.81	136.73/ 9.53	119.07/17.70	127.03/15.20	5.44 /1,283/ p< 0.05 19.34/1,58/p<0.001 0.54/1,238/p=ns
Cum-sever.	30.40/29.47	20.73/10.84	66.78/42.42	68.11/32.72	86.68/1,87/p<0.001 0.33/1,208/p=ns 0.58/1,208/p=ns
Freq.	20.90/21.86	14.00/6.70	35.44/19.66	37.44/18.54	50.43/1,91/p<0.001 0.40/1,208/p=ns 1.32/1,208/p=ns
Inten.	1.43/0.35	1.47/0.35	1.85/0.43	1.85/0.35	26.83/1,207/p<0.001 0.07/1,207/p=ns 0.05/1,207/p=ns
ED-pfrs	35.55/16.90	31.55/11.25	56.16/19.74	49.73/18.66	57.80/1,50/p<0.001 2.28/1,270/p=ns 0.12/1,270/p=ns
Fatigue-pfrs	30.57 / 14.70	27.64 / 12.56	40.52 / 17.39	38.14 / 17.33	11.22/1,273/p<0.001 0.68/1,273/p=ns 0.00/1,273/p=ns
CD-pfrs	27.93 / 11.89	27.91 / 14.49	38.18 / 13.31	35.98 / 12.33	14.74/1,276 /p < 0.001 0.22/1,276/p=ns 0.21/1,276/p=ns
SS-pfrs	27.30 / 11.61	26.91 / 10.33	38.08/16.13	37.91/15.77	25.72/1,38/p<0.001 0.01/1,271/p=ns 0.00/1,271/p=ns
Pos-mood	33.36/9.47	33.09/6.09	30.46/8.33	33.46/9.85	0.61/1,276/p=ns 0.72/1,276/p=ns 1.02/1,276/p=ns
Neg-mood	19.32 / 10.21	16.18 / 6.82	27.94/11.55	26.09 / 9.89	21.27/1,272/p=ns 1.54/1,272/p=ns 0.10/1,272/p=ns
PSS	21.57 / 7.71	23.18 / 5.38	28.23 / 7.35	26.86 / 6.84	14.68 / 1,267/p<0.001 0.01/1,267/p=ns 1.22/1,267/p=ns

smoking: Do you smoke at least one cigarette a day?

Table 6.3.3.3. Effects of psycho-social factors and outcome measures on health related behaviours (rest) for the Turkish and English samples

	ENGLAND			TURKEY			F's / d.f.s /P's
	A	B	C	A	B	C	Country effect
sleep	mean / sd.	mean / sd.	mean / sd.	mean / sd.	mean / sd.	mean / sd.	Rest effect Countryx rest int.
ISELA	31.13 / 6.64	31.95/ 6.13	32.32 / 3.98	27.61 / 7.80	30.00 / 6.59	32.72 / 5.84	2.99/1,280,p=ns 2.91/2,280/p=ns 1.25/2,280/p=ns
ISELT	30.47/ 3.82	31.37 / 3.73	31.22 / 3.28	26.44 / 6.28	27.14/ 5.23	29.13 / 5.04	20.23/1,264/p=ns 1.48/2,264/p=ns 1.07/2,264/p=ns
ISELB	31.67 / 6.42	33.41 / 4.40	33.96 / 2.92	29.47 / 7.10	30.12 / 5.21	32.37 / 4.57	8.91/1,275/p<0.01 3.17/2,275/p<0.05 0.62/2,275/p=ns
ISELS	28.07 / 5.78	30.82 / 3.86	31.52 / 2.99	30.00 / 3.79	30.98 / 3.62	31.19 / 3.49	1.64/1,273/p=ns 3.35/2,273/p<0.05 1.53/2,273/p=ns
TOT-ISEL	120.86 / 19.17	127.43 / 15.99	128.90 / 9.63	113.06 / 22.79	118.76 / 16.71	126.12 / 15.86	5.67/1,242/p<0.05 4.33/2,47/p<0.05 0.62/2,242/p=ns
Cum-sever.	35.33 / 21.97	28.61 / 25.85	24.83 / 32.23	104.10 / 57.08	62.51 / 39.14	66.37 / 35.55	46.92/1,19/p<0.001 4.80/2,212/p<0.01 2.34/2,212/p=ns
Freq.	20.67/ 10.92	20.24 / 20.41	18.00 / 23.88	53.50 / 27.87	34.07 / 19.28	35.41 / 16.29	32.07/1,26/p<0.001 2.84/2,212/p=ns 2.33/2,212/p=ns
Inten.	1.68/ 0.41	1.41 / 0.32	1.33 / 0.26	2.00 / 0.43	1.81 / 0.40	1.85 0.44	38.72/1,38/p<0.001 3.92/2,211/p<0.05 0.67/2,211/p=ns
ED-pfrs	45.87/ 17.49	32.45 / 14.30	31.96 / 15.77	63.94 / 23.34	55.02 / 18.30	50.86 / 19.88	48.15/1.65/p<0.001 6.33/2,275/p<0.05 0.32/2,275/p=ns
Fatigue-pfrs	38.80 / 15.79	28.42 / 13.57	24.23 / 11.34	48.94 / 26.72	42.33 / 16.99	33.59 / 13.94	15.48/1,43/p<0.001 8.95/2,41/p<0.001 0.47/2,278/p=ns
CD-pfrs	35.20 / 14.85	25.53 / 10.97	26.65 / 10.76	44.33 / 17.64	38.35/ 12.97	34.09 / 11.07	25.33/1,281/p<0.001 6.93/2,54/p<0.01 1.05/2,281/p=ns
SS-pfrs	32.60 / 15.95	25.90 / 9.14	26.61 / 10.47	48.22 / 20.61	38.91 / 16.61	33.06 / 10.71	24.50/1,50/p<0.001 7.04/2,48/p<0.01 1.54/2,276/p=ns
Pos-mood	26.00/ 8.51	33.79 / 8.38	37.81 / 7.81	27.67 / 10.47	30.66 / 8.42	32.62 / 8.73	2.77/1,281/p=ns 10.45/2,281/p<0.001 1.75/2,281/p=ns
Neg-mood	25.33 / 10.02	18.47 / 8.70	15.17 / 9.90	33.56 / 12.16	27.72 / 10.71	25.17/ 10.83	31.81/1,277/p<0.001 8.63/2,277/p<0.001 0.08/2,277/p=ns
PSS	27.20 / 7.14	21.24 / 6.55	19.00 / 8.12	33.12 / 8.62	28.00 / 6.81	26.23 / 6.97	36.17/ 1,272/p<0.001 12.41/2,272/p<0.001 0.09/2,272/p=ns

sleep: How often do you feel rested from your nights sleep? 0=never; 1=almost never; 2=sometimes; 3=fairly often; 4= very often * When statistical analysis was carried out, this item was categorised as A: almost never ; B: sometimes ; C: fairly or very often.

Table 6.3.3.4. Effects of psycho-social factors and outcome measures on health related behaviours (exercise) for the Turkish and English samples

	ENGLAND		TURKEY		F's /d.f.s /P's Country effect Exercise effect Count. x Exer. int.
exercise	Less exercise mean / sd.	More exercise mean / sd.	Less exercise mean / sd.	More exercise mean / sd.	
ISELA	31.29/5.87	32.33/5.57	30.32/6.71	31.40/6.35	0.95/1,277/p=ns 1.19/1,277/p=ns 0.00/1,277/p=ns
ISELT	30.72/3.78	31.50/3.45	27.61/5.30	27.86/5.56	25.51/1,100/p<0.001 0.48/1,261/p=ns 0.13/1,261/p=ns
ISELB	32.04/5.14	33.96/4.06	30.72/5.10	31.14/6.15	7.23/1,271/p<0.01 2.31/1,271/p=ns 0.95/1,271/p=ns
ISELS	29.75 / 4.72	30.84 / 3.80	31.02 / 3.60	30.74 / 3.68	1.05/1,269/p=ns 0.50/1,269/p=ns 1.43/1,269/p=ns
TOT-ISEL	123.70 / 15.59	128.37/15.16	120.01/17.26	122.39/18.67	3.28/1,239/p=ns 1.74/1,239/p=ns 0.18/1,239/p=ns
Cum-sever.	22.72 / 16.86	33.07/31.42	65.72/41.41	75.57/38.39	66.95/1,62/p<0.001 2.80/1,210/p=ns 0.00/1,210/p=ns
Freq.	15.31 / 10.69	22.70 / 23.72	35.16 / 19.97	39.96 / 17.95	40.98 / 1,89/p<0.001 3.53/1,210/p=ns 0.16/1,210/p=ns
Inten.	1.44 / 0.36	1.44 / 0.34	1.84 / 0.41	1.89 / 0.44	44.21 / 1,71/p<0.001 0.08/1,209/p=ns 0.18/1,209/p=ns
ED-pfrs	34.48 / 16.31	35.70 / 16.08	55.61 / 19.60	51.09 / 19.84	41.66/ 1,272/p<0.001 0.34/1,272/p=ns 1.03/1,272/p=ns
Fatigue-pfrs	28.89/14.80	29.83 / 13.98	41.11 / 17.48	36.14 / 18.47	14.77/1,103/p<0.001 0.63/1,275/p=ns 1.34/1,275 / p=ns
CD-pfrs	28.03 / 13.43	27.61 / 11.62	38.41 / 13.18	34.89 / 12.54	21.70/ 1,100/p<0.001 1.04/1,277/p=ns 0.64/1,277/p=ns
SS-pfrs	27.69 / 13.30	27.50 / 10.01	38.08 / 15.41	37.91 / 18.56	22.44/1,90/p<0.001 0.01/1,272/p=ns 0.00/1,272/p=ns
Pos-mood	33.28 / 9.69	33.36 / 8.88	30.49 / 8.51	33.43 / 9.99	1.04/1,278/p=ns 1.29/1,278/p=ns 1.16/1,278/p=ns
Neg-mood	19.86 / 9.26	18.48 / 10.20	28.37 / 11.28	24.80 / 10.17	20.84/1,273/p<0.001 2.33/1,273/p=ns 0.45/1,273/p=ns
PSS	22.66 / 8.42	21.28 / 7.20	28.46 / 7.25	25.46 / 7.12	19.91/1,271/p<0.001 3.83/1,271/p<0.05 0.53/1,271/p=ns

exercises: Which of the following best describes your current exercise pattern: I don't exercise and I don't intend to start ; I don't exercise but I'm thinking about starting; I exercise once in a while but not regularly; I exercise regularly but started only recently; I exercise regularly (for longer than 6 months; I've exercised regularly in the past but not know.*: When statistical analysis was carried out, this item was categorised as less exercise and more exercise

6.3.3.5. Summary

The present results showed that smoking and sleep were related to psychosocial factors or health outcomes or to both. Exercise was not related to these type of variables. However, the effects of the health - related behaviours were the same in the two countries, with no country x health - related behaviour interaction being significant

6.3.4. Effects of gender

The previous studies reported in this thesis showed that some of the differences between countries were modified by gender. This issue was examined again here. Only interactions between country and gender are discussed.

6.3.4.1. Gender, psycho-social factors and health outcomes

Although there were many main effects of country and gender there were no significant country x gender interactions (see Table 6.3.4.1).

6.3.4.2. Gender and health - related behaviours

An interaction between country and gender was seen for smoking (see Table 6.3.4.2). Turkish male students and English female students were more likely to be smokers than either Turkish females or English males. Feeling rested following sleep showed no significant interaction between country and gender. The interaction between country and gender was nearly significant for exercise, with the female subjects showing a bigger difference between countries than the males. In other words, English females students reported exercising more than Turkish female students (see Table 6.3.4.2).

Table 6.3.4.1. Effects of gender on psycho-social factors and outcome measures

	ENGLAND		TURKEY		F's /d.f.s /p's or p= ns
	Female mean / sd.	Male mean / sd.	Female Mean / sd.	Male Mean / sd.	Country / Gender / Country x gender
ISEL					
ISEL-Appraisal	32.22 / 5.53	31.40 / 5.86	31.78 / 5.49	29.62 / 7.34	1.64 /1,283 / p=ns 0.09/1,283 / p=ns 0.59/1,283/ p=ns
ISEL-Tangible	31.41 / 3.39	30.73 / 3.89	29.14 / 4.08	26.54 / 5.91	33.17/1,140/p<0.01 8.72 /1,143 /p<0.01 2.12 / 1,267 /p=ns
ISEL-Self esteem	30.44 / 3.85	30.57 / 4.74	31.36 / 3.02	30.72 / 3.94	1.09 / 1,276 / p=ns 0.25 / 1,276 / p=ns 0.54 / 1,276 / p=ns
ISEL-Belonging	34.09 / 4.19	31.93 / 4.79	32.43 / 4.33	29.43 / 5.64	9.50 / 1,278/p<0.01 14.58/1,278/p<0.001 0.39 / 1,278 / p=ns
TOTAL-ISEL	127.95 / 15.43	124.63 / 15.12	125.28 / 13.09	116.72 / 19.51	5.12 /1,245/p < 0.05 6.44 /1,245 / p<0.05 1.25 / 1,245 /p=ns
Hassles					
Cum-severity	28.87 / 27.59	28.67 / 26.57	71.80 / 45.44	61.97 / 34.40	68.32/1,181/p<0.001 0.91/1,215/p=ns 0.84 / 1,215 / p=ns
Frequency	19.22 / 18.37	20.30 / 22.36	36.89 / 20.10	34.93 / 17.87	32.31/1,215/p<0.001 0.02 /1,215 / p=ns 0.29 / 1,215 /p=ns
Intensity	1.44 / 0.33	1.45 / 0.37	1.90 / 0.39	1.78 / 0.43	54.47/1,137/p<0.001 0.92 / 1,214 / p=ns 1.44 / 1,214 / p=ns
MSTW					
Positive-mood	32.33 / 8.51	35.03 / 9.87	29.71 / 7.35	32.12 / 9.64	5.33/ 1,284 / p<0.05 4.54/ 1,284 / p<0.05 0.01/ 1,284 / p=ns
Negative-mood	20.07 / 9.92	16.93 / 9.65	29.70 / 11.36	25.78 / 10.73	39.97/1,280/p<0.001 5.82 / 1,280/p=ns 0.07 / 1,280/p=ns
PFRS					
Emotional distress-pfrs	37.35 / 16.28	31.27 / 15.49	60.37 / 19.10	50.11 / 19.02	70.14/1,278/p<0.001 10.68/1,278/p<0.01 0.70 / 1,278 / p=ns
Fatigue -pfrs	31.36 / 14.10	26.13 / 12.55	46.06 / 18.48	35.38 / 15.42	35.91/1,150/p<0.001 15.92/1,152/p<0.001 1.52 /1,281/p=ns
Cognitive difficulties-pfrs	28.33 / 12.33	26.93 / 12.11	41.79 / 13.81	34.15 / 11.48	36.96/1,284/p<0.001 7.06/1,284/p<0.01 3.38/1,284/p=ns
Somatic symptoms-pfrs	28.39 / 9.84	25.97 / 13.27	41.97 / 17.06	34.95 / 14.48	39.26/1,279/p<0.001 5.58/1,279/p<0.05 1.32/1,279/p=ns
Perceived stress scale	22.54 / 6.99	20.50 / 8.53	29.25 / 7.28	26.86 / 7.06	37.93/1,88/p<0.001 4.32 / 1,88/p<0.05 0.03/1,275/p=ns

Table 6.3.4.2. Interactions between country and gender considering health related behaviours

	ENGLAND		TURKEY		F's /d.f.s /P's
	Female mean / sd.	**Male** mean / sd.	**Female** Mean / sd.	**Male** Mean / sd.	Country x gender
smoking	0.19 / 0.40	0.10 / 0.31	0.13 / 0.34	0.28 / 0.45	4.87 / 1,281 /p<0.05
sleep	2.17 / 0.93	2.03 / 0.67	2.26 / 0.76	2.24 / 0.84	0.28 / 1, 288 / p= ns
exercise	4.09 / 1.11	3.72 / 1.25	2.48 / 1.35	2.88 / 1.65	3.67 / 1, 282 / p= ns

Note:
smoking: Do you smoke at least one cigarette a day?
sleep: How often do you feel rested from your nights sleep?
exercise: Which of the following best describes your current exercise pattern?

6.3.4.3. Summary

Country and gender interactions were not significant for either psycho-social factors or outcome measures. The interaction between country and gender was significant for some of the health related behaviours.

6.4. DISCUSSION

The first question addressed in this study was whether there were any differences between the two countries regarding psycho-social factors, outcome measures and health related behaviours. Global differences were found in terms of psycho-social factors and outcome measures between English and Turkish university students. English students reported more social support (tangible, belonging, and total social support) and positive mood whereas Turkish students cited more hassles, negative mood, emotional distress, cognitive difficulty, fatigue, somatic symptoms and perceived subjective stress. Some of these global differences between Turkey and England reflect the economic situation in the two countries. Turkish students reported receiving less tangible support, which is, perhaps, the result of the economic problems in Turkey. However, other differences are more difficult to explain, such as why Turkish students also reported receiving less belonging and total support. In general, it is possible that Turkish students have a more negative perception of life.

The main question addressed in this study was whether there were any differences between the two countries in terms of the relationship between psycho-social factors and subjective reports of health . It was found that effects of psycho-social factors on health were similar in the two countries. For example, in both countries subjects who reported more social support (total - Isel) and fewer hassles (frequency), had high positive mood and low negative mood scores. Similarly, subjects who reported less total social support and more hassles (frequency), had higher scores for all sub-scales of profile of fatigue related symptoms (pfrs) and perceived subjective stress (pss) in both countries. The relationships between hassles and health supported previous results (Monroes et al., 1983; Weinberger et al, 1987; Delongis et al., 1988) which showed that daily hassles were related to more negatives symptoms. Similarly, with regard to social support and health, the present results also supported earlier findings (e.g. La Rocco, et al., 1980, Goplerud, 1980) which showed that receiving more social support was associated with positive symptoms. In this study, an interaction between stress (hassles - frequency) and social support (tot-isel) for the outcome measures were not found, showing a main effect of social support rather than buffering effects of social support.

Another question addressed in this study was whether there were different relationships in the two countries between psychosocial factors , health outcomes and health - related behaviours. The results showed health related behaviours showed the same associations with the other variables in both countries.

The final question addressed in this study that was whether any differences between the two countries were modified by gender. The results showed that there were no country x gender interactions for either the psycho-social factors or outcome measures (country x gender interactions were found for certain health related behaviours). Therefore, one can conclude that the differences between countries were not modified by gender.

Overall, the present results demonstrated differences between the countries for psychosocial variables, health - outcomes and health related behaviours. However, these factors appeared to show similar relationships to one another in the two countries. Differences between the countries do not, therefore, reflect the operation of different mechanisms. This suggests that exposure to stress may be the important factor and the last study examined this by investigating the effects of acute exposure to a stressor in the laboratory.

CHAPTER 7: A study of cross-cultural differences in response to acute stress

7.1. Introduction

The first four studies examined occupational stress among junior house officers, senior house officers and newly graduated teachers in the UK and Turkey. In these studies of occupational stress it was difficult to demonstrate whether the differences which emerged due to cultural differences or features of jobs that were different in the two countries. Therefore, an alternative methodology was used in the fifth study which examined whether the relationship between psychological factors and stress differs in the two countries. The present study differed from the previous ones in a number of ways. First, a laboratory study was conducted rather than a field study. Secondly, the acute effects of a manipulated stressor, noise , were examined. The previous studies examined subjective responses only whereas objective measures of performance and physiological functioning were also taken in the present experiment. Finally, the early studies lacked a clear theoretical framework whereas here the adaptive cost model was used to investigate differences between countries.

The next sections reviews research on noise and effort and on the after - effects of stress, both of which are relevant to the present experiment.

7.1.1. Noise and Effort

Previous results on the relationships between noise and performance have shown some inconsistencies (Smith, 1993). These inconsistencies in the noise and performance literature reflect contextual factors such as the nature of the stress, nature of the task and characteristics of the person doing the task. It has also been suggested that mental effort can explain some of the inconsistency in the noise and performance literature. Tafalla, Evans, and Chen, (1988); and Tafalla, and Evans (1993) investigated the idea that

negative effects of noise may be masked by compensatory efforts but this effort may produce a physiological cost.

Tafalla, Evans and Chen (1988) hypothesised that performance would be unaffected by noise in the high effort condition, but cardiovascular measures would be increased. They also expected noise would interfere with task performance in the low effort condition but have little effect on physiological indices. Sixteen university students took part in their study. They presented intermittent background noise consisting of superimposed traffic, office machinery, and unintelligible speech. The noise level was 45 dBA in the low noise condition and 90 dBA in the high noise condition. They used the Norinder mental arithmetic task and recorded mean reaction time and accuracy. Subjects were randomly allocated to either the high or low noise condition. Each subject completed the task under the high (maximum) and low (50 %) effort conditions. Maximum speed whilst maintaining accuracy was used to define maximum effort. Subjects were also informed that 50 dollars would be given for the best performance during the high effort. The subjects were also required to reduce effort by cutting maximum effort in half. Perceived effort of subjects was also recorded at the end of each condition. Blood pressure was recorded automatically every 3 minutes and skin conductance (a measure of effort) was also recorded every 60 seconds. The reaction time and cardiovascular data supported their hypotheses but not the accuracy results. Subjects in the low effort conditions took more time to complete the performance task but their accuracy was greater. On the other hand, as predicted, noise didn't effect task performance under high effort conditions. Systolic and diastolic blood pressure increased for subjects in the noise / high effort conditions.

Tafalla and Evans (1993) examined whether effort can compensate for the negative effects of a stressor on human performance and whether as a consequence of this, psycho - physiological cost may occur. Forty eight male

college students participated in their experiment. They used reaction times (in milliseconds) in the Norinder arithmetic task as the measure of performance. Blood pressure, heart rate, urinary cortisol and catecholamines were also monitored. Their experimental design consisted of two conditions: condition 1- no noise, high and low effort, and condition 2 - noise, high and low effort. The experiment lasted for four days - the first day consisted of 30 minutes of instruction and practice, the second and third day involved 90 minutes of experimental sessions and the fourth day a 90 minute of baseline session. The original Glass and Singer noise tape was used. Immediate feedback was provided to subjects on the performance of the task to manipulate effort. At the end of each session, subjects identified their level of effort. The results showed that few effects of noise were seen on task performance when motivation to perform well is manipulated. However, enhanced effort appeared to increase psycho- physiological stress.

7.1.2. After effects of noise

Reviews of the literature (Glass and Singer, 1972; Cohen, 1980) have shown that negative after-effects occur following exposure to stressors such as noise, crowding, or threat of electric shock. There are many studies examining the after effects of noise on performance task. Some of these studies are summarised below.

Glass and Singer (1972) carried out a series of studies which subjects worked on simple cognitive tasks during 25 minutes exposure to an unpredictable and uncontrollable stressor, 108 -110 dBA random - intermittent bursts of broadband conglomerate noise made up of a number of fairly typical urban sounds. After the noise exposure period subjects were given a tolerance for frustration task, consisted of solvable and unsolvable puzzles (Feather, 1961), a proof-reading task (Glass & Singer, 1972) and the Stroop (1935) Color -Word task. They found that subjects who had been exposed to the noise consistently performed poorly on these tasks.

Cohen (1980) reviewed after-effects of stress on human performance and social behaviour and he stated that "nearly all of the studies that used steady - state continuos noise found poststimulation deficits in performance" (p.85).

Percival and Loeb (1980) also carried out two experiments to examine replicate and extend the findings of previous studies on the after-effects of noise on performance. The results showed that effects of noise (fixed or random patterns of 94 dBA noise) on performance were not found during the exposure. Afterwards, however, they found that subjects who were in the noise condition rated themselves as more irritated, distracted and felt the noise more unpleasant than did the subjects who were in the quite condition (46 dBA).

Gawron (1984) examined the effects and after-effects of noise on human performance. Two experiments were carried out. In the first experiment, 48 subjects (university students) completed five paper and pencil performance tests in noise (85 dBA) or quiet (45 dBA). In the second experiment, under the same conditions as the first, 24 university students completed two mood and four environment rating scales. The results showed that there were noise effects and after-effects on the subjects' affective ratings but these effects didn't emerge for performance tasks. The subjects who were in the noise condition, rated both their moods and the environment more negatively than subjects who were in the quiet condition.

Evans, Allen, and Tafalla (1993) used the Adaptive Cost Model to examine the cumulative effect of stress on psychophysiological and performance responses to noise. Eighty college students participated in their experiments. They used the percentage correct on the Norinder mental arithmetic problems. Subjects also reported their perceived stress. The Glass and Singer (1972) insoluble puzzles paradigm was used to measure after - effects. They used the Glass and Singer tape as a noise source.

The design of experiment included four conditions. In the baseline physiological monitoring session, all subjects rested for 20 minutes. In session 1, subjects either prepared and delivered a speech on euthanasia or watched a relaxing nature video for 20 minutes. In session two, the Norinder mental arithmetic test was given to subjects for 20 minutes under quiet (45 peak dBA) or noisy (90 peak dBA) conditions. During the second session, blood pressure was recorded automatically every three minutes and at the end of this session subjects also reported their perceived stress level. The Glass and Singer insoluble after effects puzzle was given to subjects in the last session (in quiet).

The results of the study supported their hypothesis partially. Both blood pressure measurements of subjects who were in the speech / noise condition, changed the most from the baseline session. Subjects in this condition also attempted the least number of puzzles during the after effect session (first and third insoluble puzzled combined). In other words high stress and noise in combination led to the greatest cost.

7.1.3. Aims of the present study

The main aim of the present study was to examine, using the adaptive cost model, *whether subjects in Turkey and the UK, responded differently to acute stress , and showed different after -effects of exposure to stress.*

The present study examined the effects of stress and noise on performance and cardiovascular functions in the framework of the adaptive cost model. The crucial difference from the Evans, Allen & Tafalla study was that stress was not manipulated prior to exposure to the noise, but rather subjects were categorised as having high or low levels of stress on the basis of their perceived stress scores over the period of the previous month. As in the Evans, Allen & Tafalla study, the rationale behind this study was that the adverse effects of noise on the individual might differ depending on the prior levels of stress. The main aim of the experiment was to examine whether

differences between countries would emerge in relation to the crucial variables of the adaptive cost model. This model leads to the following hypotheses:

1) *Subjects with high levels of stress would show greater negative effects of noise on performance than the subjects with low levels of stress .*

2) *Even when the noise was no longer present, residual negative effects of noise should be present and the time taken for each figure for the after - effect task (the Feather insoluble / soluble line figures), would reflect the stress levels.*

As was mentioned earlier, evidence from previous studies shows that deleterious effects of noise on human performance may be mediated by effort. However, this also suggests that when the subject works harder to compensate for the negative effects of noise on task performance, this greater effort may cause some physiological cost (Tafalla, and Evans, 1993, p. 515). The present study also examined whether negative effects of noise on performance could be removed by effort, but at some physiological cost.

3) *It was predicted that cardiovascular responses of high stress subjects would be exacerbated by noise.*

Evidence from previous studies (Perceival and Loeb, 1980; Gawron, 1984) also show that there were negative effects of noise on affective ratings. Therefore, it was also hypothesised that :

4) *there would be negative noise effects and after-effects on the subjects' affective ratings as determined by the mood scale.*

Finally, it was also hypothesised that:

5) *there would be differences between the sessions in terms of performance, mood, effort and cardiovascular functions.*

The adaptive cost model, therefore, provides many opportunities for differences between countries to emerge and also leads to precise predictions about the effects of different parameters.

7.2. METHOD

7.2.1. Design of the study

In the first part of study, the perceived stress scale (PSS) was distributed to around 100 subjects in both countries. The subjects were divided into the high and low stress groups (based on a median split, median=23). From each group 12 subjects were selected to participate in the experiment (The Turkish subjects in the high stress group had a mean score of 34.50, sd=4.96; The Turkish subjects in the low stress group had a mean scores of 16.33, sd= 2.28 ; The English subjects in the high stress group had a mean score of 32.08, sd= 3.95; The English subjects in the low stress group had a mean scores of 15.25, sd= 3.40).

The second part of the study included three sessions. In the first, baseline measurements were recorded during no noise. In the second, the subjects were exposed to noise, and in the third they were tested again with no noise to determine whether any after - effects were apparent.

7.2.2. Subjects

The total number of subjects was 48. Twenty four university students (sixteen male and eight female) from each country took part in the study. Except for three English students who were postgraduates (two female and one male), the Turkish and English subjects were undergraduate students. They were paid £4 for participation in this experiment.

7.2.3. Measurements

Nature of noise : Continuous free - field white noise was used and the sound level of the noise condition was 85 dBA.

Performance tasks :

The Norinder Mental Arithmetic Task : It has been found that a certain type of mental arithmetic task such as the Norinder mental arithmetic task is performed more slowly in noise condition than no noise condition (see Frankenhauser and Lundberg, 1977). The Norinder mental arithmetic task was also used in study of Evans, et al. (1993) which examined the cumulative effects of stress on psychophysiological and performance responses. Evans et al. (1993) tested predictions based on the adaptive cost model in a very similar experiment to the present one.

The task involved the addition or subtraction of two numbers in one row and was repeated for a second row (see Appendix J). The subjects then had to calculate the sum or difference as indicated for each row separately in the head. Then, if the sum or difference in the upper row was greater than that in the lower one, the subjects mentally subtracted the two totals; if the lower result was the same as or greater than the upper one, the two results were added. Only the final answer was recorded. Speed and accuracy of performance were scored .

After - effects task (Insoluble / soluble line figures): After effects were also measured using the Feather figures (1961), involving two soluble and two insoluble line drawings (see Appendix K). The subjects worked on these line puzzles for 10 minutes. The puzzles were presented to subjects in the following order: the first and third were insoluble and the second and fourth were soluble. Subjects were required to trace over all the lines of the figure

without lifting their pen from the paper and without tracing over any lines twice. The subjects worked only on one puzzle at a time and when they moved on the next, they couldn't return the previous one. The criterion measure was time taken to complete each puzzle.

Cardiovascular functions: Systolic, diastolic blood pressure and pulse rate were measured using a sphygmomanometer.

Effort : Subjects rated the effort they put in the task and how demanding they felt the task was using a 7 - point scale, where 1 represented little or no effort or not at all demanding and 7 represented maximum effort and very demanding (see Appendix L).

Mood scales: Subjects' rated their mood using Visual - analogue scales (VAS ; after Herbert et al., 1976) which included the following 18 pairs of bi-polar adjectives: drowsy / alert; relaxed / excited; strong / feeble; muzzy / clear headed; well - co-ordinated / clumsy ; lethargic / energetic ; contented / discontented ; troubled / tranquil; mentally slow / quick - witted; tense / calm; attentive / dreamy; incompetent / proficient ; happy / sad ; antagonistic / friendly; interested / bored; withdrawn / sociable; depressed / elated; self - centred / outward - going. Subjects were required put a mark through a 10 cm line to indicate exactly how they felt at the time. The mood ratings were marked by measuring the distance in millimetres from the left - hand end of the scale to the mark made by the subjects. For example, in the case of relaxed / exited ratings, high scores showed high levels of excitement (see Appendix M).

7.2.4. Procedure of the laboratory study

The procedure was the same in both countries:

Practice session: The Norinder mental arithmetic task was presented to the subjects. Then, the subjects started to worked on practice problems for 5 minutes.

Baseline session: Subjects continued to worked on items in the Norinder mental arithmetic task. The subjects were given only 10 minutes to solve the problems on this task. After 10 minutes, the subjects' rated effort, task demands, subjective mood, and blood pressure and heart rate were monitored. Noise was not played during this session.

Experimental session: The Norinder mental arithmetic task was presented to subjects again under the noisy condition. After 10 minutes, subjects were given a break and then rated their effort and subjective mood and blood pressure, and heart rate were recorded. The noise was still played during this break. After this break, subjects worked on other problems in this task under noisy condition. 10 minutes were given to the subjects for this second part. After 10 minutes, effort and mood were again rated and blood pressure and heart rate were monitored again. The noise was still played during the monitoring process. Noise effects after change with time exposed to the noise and the present design allowed one to examine such effects.

After effects session: Immediately following the noise session, after-effects were measured in quite using the Feather figures. This session took 10 minutes. Effort and mood, were then rated again and blood pressure and heart rate monitored for the last time.

7.3. RESULTS

Analyses of variance were carried out on the baseline data to examine whether there were effects of country and stress level on performance, effort, mood and cardiovascular functioning. Problems of unequal variance were dealt with as in previous sections.

Analyses of covariance with the baseline data as covariates were run to see whether country and stress level modified the effects of noise on performance, effort, mood and cardiovascular functioning.

Previous factor analysis categorised the items of the mood into three factors which were called alertness, sociability, and tension. Analysis of mood considered these factors.

7.3.1. Baseline differences : Effects of country and stress level on performance, effort, mood and cardiovascular functioning

7.3.1.1. Effects of country

Significant differences between English and Turkish sample at baseline session were found in terms of (1) performance (number done: $F=9.19$, $df=1,44$, $p < 0.01$);

(% correct: $F= 10.81$, $df= 1,23$, $p < 0.01$); (2) " how demanding subjects felt the task to be " ($F= 5.27$, $df= 1,44$, $p <0.01$); (3) systolic blood pressure ($F= 5.90$, $df= 1,44$, $p < 0.05$), and (4) pulse ($F= 8.37$, $df=1,44$, $p < 0.01$) (see Table 7.3.1.1). The English students performed better, found the task more demanding and had higher systolic blood pressure but lower pulse rate.

Table 7.3.1.1. Effect of country on performance, effort and physiology at baseline

	TURKEY		ENGLAND	
	Low level stress mean / sd.	High level stress mean / sd.	Low level stress mean / sd.	High level stress mean / sd.
Performance (number of done)	64.75 32.53	53.08 22.61	80.67 23.00	86.33 32.56
Performance (% correct)	84.67 14.20	82.92 17.66	94.92 4.76	94.92 3.68
Demand	3.17 1.47	2.33 1.44	3.92 1.31	3.42 1.31
Systolic (mmhg)	115.42 22.03	118.75 13.82	128.83 14.98	129.92 18.13
Pulse (beats min.)	73.75 7.75	81.00 12.30	69.75 10.43	67.33 11.28

7.3.1.2. Effects of stress

Effects of stress level were found for only sociability and tension (see Table 7.3.1.2), with the high stressed subjects feeling more tense and less sociable.

Table 7.3.1.2. Stress effect on mood scale at baseline session (less score= high level of tense ; high score= high level of sociability)

	TURKEY		ENGLAND		
Items	Low level stress	High level stress	Low level stress	High level stress	
	mean / sd.	mean / sd.	mean / sd.	mean / sd.	F's / d.f.s / P's
Sociability	43.67 11.11	35.67 10.04	39.50 7.08	32.58 6.43	8.46 / 1,44 / p< 0.01
Tense	20.92 5.30	15.50 5.42	18.67 4.76	16.08 4.30	7.80 / 1,44 / p<0.01

7.3.1.3. Summary

The English subjects completed more items, got more answers correct on the performance task, found the task more demanding, and had higher systolic blood pressure but a lower pulse. Low stress subjects reported that they were more sociable and less tense than high stress subjects, but this effect of stress was not modified by country.

7.3.2. Effects of country and stress level in modifying the effects of noise on performance, effort, mood and cardiovascular functions in the first and second half of the experiment

7.3.2.1. Acute effects of noise (First half of the experiment)

7.3.2.1.1. Effects of country

When covarying baseline scores, a country effect was found only for performance (number of done: $F= 5.55$, $df=1,43$, $p < 0.05$) with the Turkish subjects completing more, and for one of the mood factors, namely tension

(F=5.67, df=1,43, p< 0.05) (see Table 7.3.2.1). Turkish subjects reported that they were more tense than English subjects .

No effect of stress level nor stress x country interaction were found for either performance, effort, cardiovascular measures or mood.

Table 7.3.2.1. Effects of country on the number of problems done in noise (less score= more tense)

	TURKEY		ENGLAND	
	Low level stress	High level stress	Low level stress	High level stress
	Adjusted mean / se.	Adjusted mean / se.	Adjusted mean / se.	Adjusted mean / se.
Performance (num. of done)	79.41 3.27	82.91 3.42	76.98 3.29	68.54 3.37
Tense	18.12 1.48	16.82 1.44	14.33 1.41	13.90 1.43

7.3.2.2. Longer term effects of noise (Second half of the experiment)

7.3.2.2.1. Effects of country

When controlling baseline scores, a country effect was found in terms of performance (number of done) (F=5.28, df=1,43, p < 0.05) (see Table 7.3.2.2) with the Turkish subjects completing more.

Effects of country were also found for sociability (F= 3.97, df=1,42, p < 0.05) and tension (F=5.67, df= 1, 43, p < 0.05) (see Table 7.3.2.2). Turkish subjects reported that they were more sociable than English subjects. In contrast, English subjects were more tense than Turkish subjects.

Once again, effects of stress levels were not found for either performance, effort, cardiovascular measures or mood. Similarly, there were no interactions between country and stress.

Table 7.3.2.2. Differences between countries in the second half of the noise exposure : performance (number of done) and mood (less score= high level of tense; high score= high level of sociability)

	TURKEY		ENGLAND	
	Low level stress	High level stress	Low level stress	High level stress
	Adjusted mean /se.	Adjusted mean / se.	Adjusted mean / se.	Adjusted mean / se.
Performance (num. of done)	79.89 5.12	86.34 5.37	77.35 5.16	63.18 5.38
Sociability	37.68 1.67	35.56 1.67	32.47 1.59	34.26 1.66
Tense	18.12 1.48	16.82 1.44	14.33 1.41	13.90 1.43

7.3.3. Country, stress and changes in the effects of noise over time:

Analysis of co-variance was also carried out with first and second half of the experiment sessions in one analysis. Significant differences between two part of experiment sessions were not found for either performance, effort, cardiovascular measures or mood. Similarly, no interaction between country x experimental sessions or stress level x experimental sessions , country x stress level x experimental sessions were significant .

7.3.4. Summary

Overall, there was little evidence of differences between countries, apart from speed of performance where the Turkish subjects were faster than the English. Turkish subjects also reported that they were more sociable but less tense than English subjects.

7.3.5. After - effects of noise

a) Speed of solving the Feather figures

A country effect (F=5.52, df=1,44, $p < 0.05$) and a country x stress interaction (F=4.11, df=1,44, $p < 0.05$) were only found for figure two (the soluble one). Tukey test showed that English low stress subjects took more time to solve figure two (mean=288.17, sd=118.32) than Turkish low stress subjects (mean=173.42, sd=63.72) (at level of $p < 0.05$) and Turkish high stress subjects (mean=190.25, sd=90.04), English high stress subjects (mean=193.00, sd=102.48) (both at the level of $p < 0.10$).

b)Task Demand

A significant difference was found between the Turkish and English sample in the after - effect of noise session for ratings of how demanding subjects felt the task had been (F=5.34, df=1,44, $p < 0.05$) (see Table 7.3.5.1) , with the English subjects finding the task more demanding. A country effect was not found for ratings of how much effort they put into doing task (F=0.65, df=1,44, p=ns). Similarly, there was no significant effect of stress nor country x stress interaction.

Table 7.3.5.1. Effects of country and stress on demand after the noise session

	TURKEY		ENGLAND	
	Low level stress	High level stress	Low level stress	High level stress
	mean / sd.	mean / sd.	mean / sd.	mean / sd.
Effort	3.83	4.25	5.58	4.75
(demand)	1.75	1.87	1.38	1.71

c) Mood and cardiovascular functioning

There was no significant effect of country on cardiovascular measures. However, effects of country ($F=4.55$, $df=1,39$, $p < 0.05$), effects of stress ($F=4.84$, $df=1,39$, $p < 0.05$) and country x stress interaction ($F=6.42$, $df= 1, 39$, $p < 0.05$) were found for alertness . Numerically, it seems that Turkish high stress subjects reported that they were less alert than the other groups (see Table 7.3.5.2).

Table 7.3.5.2. Country and stress effect on alertness at the after - effect of noise session (controlling baseline) (high score = high level of alertness)

	TURKEY		ENGLAND	
	Low level stress	High level stress	Low level stress	High level stress
	Adjusted mean / se.	Adjusted mean / se.	Adjusted mean / se.	Adjusted mean / se.
Alertness	49.54 3.49	33.55 3.42	48.51 3.25	49.00 3.26

7.3.5.1. Summary of the after -effects results

A difference between countries and country x stress interaction was restricted to the first solvable figure. English low stress subjects took more time to solve the figures than other three groups.

A country effect was found for ratings of how demanding subjects found the task, with English subjects reporting that it was more demanding.

A country effect and country x stress interaction were significant in the analysis of the alertness factor, with Turkish high stress subjects reporting that they were less alert than the other groups.

7.3.6. Combined analyses of noise and noise after - effects: mood and cardiovascular measures (baseline measures as covariates)

Effects of sessions were not found for systolic blood pressure (F=1.52, df=2,88, $p > 0.05$), or diastolic blood pressure (F=0.66, df=2,88, $p > 0.05$). On the other hand, significant differences between sessions were found for pulse (F=3.66, df=2,88, $p < 0.05$) and sociability (F=7.10 df=2,84, $p < 0.01$) and tension (F= 9.80, df=2,88, $p < 0.001$; see Table 7.3.6.1).

7.3.6.1. An interaction between sessions x country

Interactions between sessions and country were significant for alertness (F=7.97, df=2, 78, $p < 0.001$), sociability (F=11.80, df=2, 84, $p < 0.001$) and tension (F=5.61, df= 2,88, $p < 0.01$). Numerically, Turkish subjects were more alert in the first session than in the second and third sessions. On the other hand, especially English subjects were more alert in the third session than in the first and second sessions. Turkish subjects also showed more stable results for the other mood factors during the three sessions than English subjects.

A country x stress x sessions interaction was only significant for alertness (F=3.47, df=2,78, $p < 0.05$) (see Table 7.3.6.1). Turkish low stress subjects were more alert in the whole three sessions than Turkish high stress subjects. On the other hand, English low stress subjects were more alert in the first session than English high stress subjects whilst English high stress subjects more alert in the third session than English low stress subjects.

Table 7.3.6.1. Changes over test sessions (covarying baseline scores) (less score= high level of tense ; high score= high level of sociability; high score = high level of alertness)

		TURKEY	ENGLAND	
		Low stress mean / se.	High stress mean / se.	Low stress mean / se.	High stress mean / se.
Pulse (beats min)	First:	70.60/4.14	73.23 / 4.24	74.89 / 4.18	74.29 / 4.22
	Sec.:	74.18/4.14	71.65 / 4.27	72.00 / 4.18	72.62 / 4.22
	Third:	62.10/4.14	69.90 / 4.27	70.47 / 4.18	74.95 / 4.22
Alertness	First:	49.72 / 4.72	46.93 / 5.09	47.14 / 4.59	44.85 / 4.45
	Sec.:	47.90 / 4.72	42.93 / 5.09	44.69 / 4.59	44.83 / 4.45
	Third:	47.54 / 4.72	35.26 / 5.09	47.96 / 4.59	49.85 / 4.45
Sociability	First :	37.70 / 2.47	36.37 / 2.67	33.98 / 2.43	35.83 / 2.46
	Sec.:	37.87 / 2.47	36.17 / 2.67	32.76 / 2.43	35.05 / 2.46
	Third:	37.79 / 2.47	34.94 / 2.67	39.59 / 2.43	37.48 / 2.46
Tense	First:	17.48 / 2.05	16.46 / 2.04	13.91 / 2.02	14.48 / 2.03
	Sec.:	17.81 / 2.05	17.04 / 2.04	14.24 / 2.02	14.07 / 2.03
	Third.:	18.73 / 2.05	16.71 / 2.04	18.33 / 2.02	17.40 / 2.03

7.3.6.2. Summary of session effects

Main effects of session were restricted to the pulse and mood data. Interactions between country and sessions were significant for mood, with the Turkish subjects becoming less alert over time and the English subjects more positive in their mood. Country x stress x session interactions were also significant in the analyses of the alertness data, with Turkish low stress subjects being more alert than Turkish high stress subjects at all sessions, and English low stress subjects were more alert than the high stress subjects at the first session with the reverse pattern occurring in the third session.

7.4. DISCUSSION

The main issue in this study was to examine whether any differences between the countries would emerge in relation to the crucial variables of the adaptive cost model. However, the results showed that there were selective differences between the countries and the major cross - cultural differences were found at baseline. English subjects completed more items and got more

correct on the performance task than did the Turkish subjects. However, in the noise sessions (first and second half of the experiments), Turkish subjects completed more items than English ones. Two explanations can be given for these results. First of all, the Turkish subjects were not familiar with this kind of experiment, which plausibly explains why their performance was inferior at the beginning of the experiment (the baseline section). As they became familiar with the task, their performance improved (in the noise section). Secondly, English subjects paid more attention to the task at the beginning of the experiment (in the baseline section) but later on they became bored therefore, their performance decreased (in the noise section).

The second important issue in this study was to investigate whether there was evidence for the adaptive cost model. The first hypotheses was that "subjects with high levels of stress would show greater negative effects of noise on performance than the subjects with low levels of stress". The results indicated that there were no stress effects on performance across the three sessions. These results might be due to the noise level and type of noise used. The noise level in the present study was 85 dBA and continuous white noise was used. In Evans, Allen, and Tafalla, (1993) study, which showed partial support of "adaptive cost model ", Glass and Singer noise type which consisted of a conglomerate of traffic noise, office machines and foreign speech, was used and their noise level was 90dBA.

Another hypothesis was that " even when the noise was no longer present, high level of stress would lead to an impairment on the after - effect task ". However, a main effect of country and country x stress interaction were found only for figure two (soluble one), with English low level stress subjects taking more time to solve the puzzle than the other groups. The results of present study didn't support the hypothesis nor the findings of Evans, Allen, and Tafalla, (1993) which showed that subjects who had been

in the speech / noise condition subjects made the least number of puzzle attempts (first and third insoluble puzzles combined).

This study also examined " whether negative effects of noise on performance could be mediated by effort, but at some physiological cost ". Effects of country and stress were not found with regards to perceived effort for any of the three sessions. Country and stress effect were only found for the ratings of how demanding subjects felt the task had been in the after - effect session. Again, this result didn't support the findings of Tafalla and Evans (1993).

The cardiovascular data showed that country effects were found only at baseline sessions. Effects of stress and interactions between country and stress were not found in the other sessions. Again, the hypothesis that "cardiovascular responses of high stress subjects would be exacerbated by noise " was not supported.

It was also predicted that " there would be negative noise effects and after - effects on the subjects' mood". Country effects were found for the mood ratings in all of the three sessions. Turkish subjects were less tense than English subjects in the first half of the noise exposure. Similarly, Turkish subjects were less tense and more sociable than English subjects in the second half of the noise exposure. In the after -affect session, the main effect of country and stress x country interactions were significant. Turkish high stress subjects reported that they were less alert than the other groups. Changes over test sessions, covarying baseline scores showed that Turkish subjects had more stable results for the mood factors than the English subjects, who became more alert, more sociable and less tense over time. Although there were country differences in terms of mood ratings, the results didn't support the hypothesis mentioned above, nor the findings of Perceival and Loeb (1980) and Gawron (1984) studies.

Overall, the present results did not support the adaptive - cost model. Indeed, the findings of this study supported the conclusions of the earlier work of

the thesis that there were few global differences between countries and there were also relatively few differences in response to stress. Therefore, it is possible that differences in exposure to stress between countries may be the important factor rather than differences in response to stress. The integration of this and the other studies is dealt in more detail in the final chapter.

CHAPTER 8. OVERALL CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

8.1. General aim of the research

The present studies were designed to investigate cross - cultural differences in stress using a variety of methods . The studies moved from an empirical approach , largely aimed at describing differences between the countries and trying to eliminate confounders to a model driven strategy.

There is always a problem with cross - cultural studies in that it is difficult to get comparable situations in two countries. It was assumed that by using a variety of methods any general differences between the countries would become apparent.

Differences between Turkey and the UK were investigated for the following reasons. First the two countries show differences in terms of their political tensions, economy, religious, and social relationships. Secondly, the two countries also differ on Hofstede's dimensions (1980), with England being identified as an individualistic country whereas Turkey is identified as a collectivist country.

The initial research involved four survey studies which examined occupational stress among JHOs , SHOs and newly graduated teachers in Turkey and the UK to determine whether there were differences which could not be attributed to specific features of the job. The first study , carried out among junior house officers, provided preliminary data on this topic. This study examined whether there were any differences between the countries in exposure to stress and intensity of the response to stress. The second study also carried out among JHOs, aimed to replicate the initial findings using other samples. It also controlled possible confounding factors- e.g. length of time as a JHO. After this study, it was decided to conduct the same kind of

research in different occupations. This provided further evidence as whether the findings of the first two studies emerged as a result of cultural differences or reflected features of the job in the two countries. Third study was carried out among senior house officers. The reason for choosing this sample was that they had the same occupation as the JHOs but were at a different career stage. The fourth study was carried out among newly graduate teachers because they were at the same career stage as the JHOs but their occupation was totally different. Overall, investigation of these groups enabled one to determine whether any effects in the first two studies reflected the nature of the job or transition to a career from being a student.

As mentioned earlier , it is difficult from previous studies to determine whether differences between countries, are the result of cultural differences or the features of the jobs in the two countries. The fifth study moved away from occupational stress and used the transactional approach to study stress in the two countries. This model views stress is as an interaction between the individual and his environment, and in that case, culture can be an important environmental factor. The model also predicts that stress can be modified by other factors (e.g. social support) and it was of major interest to determine whether psychosocial factors operate in the same way in both countries. This involved examining the relationship between psycho-social factors and outcome measures in university students. The reasons for choosing them as a sample are explained later on. In summary, this the study examined life stress rather than occupational stress and also investigate response to stress rather than exposure stress.

The last study was carried out in the laboratory because of the problems with field studies and was designed to examine whether the adaptive - cost model applies to the acute effects of noise in the two countries. The main reason for using this model is that it allows for active involvement of the person

and measures a number of outcomes (e.g. motivation, performance, physiology, mood). Therefore, this model provides many opportunities for cross - cultural effects to manifest themselves. The acute effects of noise were examined for several reasons. First, the effects of noise depend on context. In this case, culture might be a very important part of the context. Secondly, using and controlling noise is easy compared with other stressors. Finally, there is a vast literature on effects of noise on performance which enables comparison with earlier work. Therefore, in the final study, the effects and after effects of noise on performance, cardiovascular functions, effort and mood were examined in the two countries using the adaptive cost model as a framework.

8.2. Main conclusions from the experiments

8.2.1. Occupational stress (survey studies)

8.2.1.1. Junior House Officers

First of all, it's important to mention again that there have been no previous studies comparing JHOs in Turkey and the UK, so the first study provided preliminary data on this topic. This study also examined whether there were any differences between exposure to stress and intensity of stress. Effects of modifying factors (e.g. gender, types of hospital unit) were also considered in the first study.

The results showed there was an overall difference between the two countries with regard to frequency of exposure to stress, which could clearly represent differences in the actual jobs carried out. This was supported by the result showing there were no differences in the intensity of response to stress. Furthermore, the differences between countries were specific to certain items, and modified by gender and type of unit. The results related to the selective differences between two countries are summarised in Table

8.2.1 and 8.2.2. In these Tables only the five most stressful items are summarised as other effects were either less reliable or failed to show a difference between countries. The items are presented in the Tables in terms of their rank order.

Table 8.2.1. Items found more stressful by Turkish JHOs in terms of frequency, intensity and intensity when controlling frequency

Frequency	Intensity	Intensity when controlling frequency
Lack of respect that you deserve from the general public	Lack of respect that you deserve from the general public	Lack of respect that you deserve from the general public
Lack of support from senior staff	Lack of teaching	Dealing with death and dying
Not knowing what type of job performance is expected	Not knowing what type of job performance is expected	Lack of career advice
Criticism by a supervisor	Lack of career advice	Lack of teaching
Dealing with relatives as patients		Problems with other JHOs

Table 8.2.2. Items found more stressful by Welsh JHOs in terms of frequency and intensity

Frequency	Intensity
Interruptions of work by other people's phone calls	Dealing with long working hours
Dealing with long working hours	Work overload
Work interferes with domestic life	Interruptions of work by other people's phone calls
Number of beds responsible for	Dealing with "difficult" patient
Problems with senior doctors	

It was found that Turkish JHOs complained more about items related to lack of support whereas Welsh JHOs reported more items related to work overload. Analysis of whether any differences in reported stress reflected frequency of exposure to stress or response to it, confirmed the findings of Firth - Cozens and Morrison (1989), in that frequent stressors did not

necessarily produce the most intense stress. As mentioned earlier, there were relatively few interactions between country and contextual factors. The differences were bigger for females than males. Indeed, the difference between countries for frequency of stress was largely due to Welsh female subjects whilst the differences between countries found for intensity covarying frequency was largely due to Turkish female subjects. The analyses of individual item indicated that effects of type of hospital unit depended on the stress source. Generally, Turkish JHOs on the medicine unit complained more about lack of support and resources whereas Welsh JHOs on the surgery unit reported greater work overload, and insecurity about knowledge, competence etc. The results also showed that duration on the unit was not responsible for the differences between the two countries.

The first step in the research strategy was to determine whether the profile of selective effects could be replicated in another sample of JHOs i.e. see if the effects were situation specific or reflected differences in training, work routines, etc. that would generalise to other samples.
Therefore, in the second study stress was examined in another sample of junior house officers . However, this time Turkish JHOs was compared to English JHOs instead of the Welsh sample. Unlike the first study , length of time as a JHO was also controlled in the second study. In the second study, it was also of interest to see whether stress at work was related to global ratings of stress. Therefore, the perceived stress scale was given to subjects.

The results indicated that there was no overall differences between the Turkish and English samples in terms of either frequency of exposure to stress or intensity of response to stress. In the second study, time working as a JHO was shown to be very important, with Turkish JHOs who had been working three months reporting less frequent stress than the Turkish and English JHOs who had been working for six months. Similarly, Turkish

JHOs who had been working as a JHO for six months reported more intense stress than their Turkish counterparts who had been working three months and the English JHOs who had been working six months. The lack of control of this factor in the first study could account for the differences obtained in the second study. The importance of other contextual factors namely gender, types of hospital units and duration on the unit was not confirmed in the second study .

Like the first study , it was found that the differences between countries were selective for only certain items. A summary of these results is given in Table 8.2.3 and 8.2.4. The items are presented in the Tables in terms of their rank order.

Table 8.2.3. The main items found more stressful by Turkish JHOs in terms of frequency, intensity and intensity when controlling frequency

Frequency	Intensity	Intensity when controlling frequency
Lack of time for social life	Number of beds responsible for	Lack of an opportunity to talk openly other unit personnel about problems on the unit
Lack of teaching	Criticism by a supervisor	Lack of respect that you deserve from general public
Number of beds responsible for	Lack of a good physical work environment	Dealing with new technology
Criticism by a supervisor	Lack of teaching	Lack of career advice
Lack of respect that you deserve from the general public	Lack of respect that you deserve from the general public	Lack of teaching

Table 8.2.4. The main items found more stressful by English JHOs in terms of frequency, intensity and intensity when controlling frequency

Frequency	Intensity	Intensity when controlling frequency
Interruptions of work by other people's phone calls	Dealing with long working hours	Dealing with "difficult" patients
Dealing with long working hours	Work overload	Lack of time for social life
Work interferes with domestic life	Interruptions of work by other people's phone calls	Not enough time to complete all of my duties
Dealing with death and dying	Fear of making mistakes about treatment	
Dealing with patients' relatives	Not enough time to complete all of my duties	

It seems that some of the items were the same as the previous study (e.g. English JHOs reported that the following items caused the more frequent stress : 'interruptions of the work by other people's phone calls', 'dealing with long working hours') whereas other effects were apparent in the second study that were not significant in the first study (e.g. Turkish JHOs reported that the following items produced more frequent stress: 'lack of time for social life', 'number of beds responsible for'; English JHOs complained more about 'being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients'). These differences could reflect specific features of the samples examined. Conversely, as in the first study, some differences also emerged regarding exposure to stress and intensity of stress sources in the second study.

In the second study, unlike the first study, the two countries were compared in terms of perceived stress scores. Significant differences between two countries were not found for this variable. However, Turkish JHOs had higher mean levels of perceived stress scores than English JHOs.

The two sets of data were then combined in a single analysis in order to obtain a clearer view of what was consistent across studies. The results of the combined data showed that there was no evidence of global differences between the two countries. Interactions between country and gender or type of hospital unit, were also not found in the combined analysis. Once again, the differences between countries were specific to certain items. The items which showed robust effects in terms of frequency, intensity and intensity when controlling frequency of stress sources for Turkish samples and British samples are presented in Table 8.2.5 and 8.2.6. The items are presented in the Tables in terms of their rank order.

Table 8.2.5. The items which showed robust effects in terms of frequency, intensity and intensity when controlling frequency of stress sources for Turkish sample

Frequency	Intensity	Intensity when controlling frequency
Lack of a good physical work environment	Lack of a good physical work environment	Problems with senior doctors
Dealing with your relatives as patients	Lack of respect that you deserve from the general public	Lack of respect that you deserve from the general public
Lack of an opportunity talk openly with other personnel about problems on the unit	Lack of an opportunity to share experiences with other personnel on the unit	Dealing with death and dying
Lack of respect that you deserve from the general public	Criticism by a supervisor	Dealing with new technology
Lack of an opportunity to share experiences with other personnel on the unit	Lack of career advice	Lack of career advice
Criticism by a supervisor	Lack of teaching	Lack of teaching
Dealing with your friends as patients	Problems with other JHOs	Problems with other JHOs
Lack of support from senior staff		
Lack of teaching		
Not knowing what type of job performance is expected		

Table 8.2.6. The items which showed robust effects in terms of frequency and intensity stress sources for British sample

Frequency	Intensity	Intensity when controlling frequency
Dealing with " difficult " patients Awareness of lack of knowledge / skills Dealing with patients' relatives Work overload Dealing with death and dying Dealing with new technology Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients Dealing with long working hours Caring for the emotional needs of patients	Dealing with " difficult " patients Awareness of lack of knowledge / skills Work overload Work interferes with domestic life Interruptions of the work by other people's phone calls Fear of making a mistake about treatment Not enough time to complete all of my duties Dealing with long working hours	Dealing with " difficult " patients Work overload Not enough time to complete all of my duties

Considering these results which were shown in the above tables, Turkish JHOs reported more for the items related to interpersonal problems which can be also considered as either related to lack of support or to problems of social interaction, and lack of physical working environment. In contrast, British JHOs complaint about more for the items related to work overload, dealing with " difficult " patients and insecurity about their knowledge.
The results regarding the question of whether any differences between countries reflect frequency of exposure to stress or response to it showed that differences depended on the type of stress .

The next step in the research was the identification of frequency and intensity of job related stress sources was investigated among SHOs and newly graduated teachers. This made it possible to determine whether the

selective effects which emerged in the first and second studies, generalise to other jobs. It was assumed that if the effects emerged in senior house officers but not newly graduated teachers, then these effects reflect something common to health professionals. In contrast, if the differences between countries were apparent in the teachers but not the SHOs, then the crucial factor would appear to be starting the first job. If both groups showed effects then a more global effect of country would be implicated.

8.2.1.2. Senior House Officers

The findings of the studies which were carried among SHOs showed that there was no differences between the countries in overall frequency and intensity of stress scores. Similarly, gender (except in terms of intensity when controlling frequency) and type of hospital unit did not modify the effects of country. In contrast, the differences between the countries were modified by time working as a SHO, although this reflected a complex profile rather than linear changes in the country differences over time.

However, like the previous studies which were carried out among JHOs, selective differences between the countries were found. Some of the items which showed significant differences between the countries, were the same as in the previous studies. For example, both British JHOs and SHOs complained more frequently for the items related to 'dealing with long working hours' , 'insecurity about their knowledge' and 'dealing with new technology'. Similarly both Turkish JHOs and SHOs also reported more frequent stress related to 'interpersonal issues' and 'physical work environment'. Regarding intensity, both British JHOs and SHOs also reported more intense stress for 'dealing with long working hours' and 'insecurity about their knowledge'. However, considering intensity when controlling frequency, 'dealing with " difficult " patients' was found more stressful only by both medical professions. Conversely, both Turkish JHOs and SHOs found items related to " lack of support" as caused to great stress.

The results also showed that some items showed significant differences only in one study and also showed the same trend in the other study. In other words a consideration of the mean scores shows that the pattern of country effects was even more consistent across studies. For example, 'work overload' showed a significant effect of country in JHOs study which British JHOs found more stressful than Turkish JHOs, but although this item didn't show any significant effect of country in SHOs study, considering of the mean score, it seems that English SHOs also found this item more stressful than their Turkish counterparts. In general, it can be concluded that the differences between countries show remarkable consistency in the trends of the effects. The items which showed significant differences between the two countries for JHOs and SHOs, are shown in Table 8.2.7. The items are presented in the Table in terms of their rank order.

Table 8.2.7. The items which showed significant differences between countries for JHOs and SHOs

ENGLAND	TURKEY
Frequency Dealing with long working hours Caring for the emotional needs of patients Awareness of lack of knowledge / skills Dealing with new technology Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	**Frequency** Lack of a good physical work environment Lack of respect that you deserve from the general public Dealing with your relatives as patients Dealing with your friends as patients
Intensity Dealing with long working hours Work interferes with domestic life Awareness of lack of knowledge / skills Fear of a making a mistake about treatment	**Intensity** Lack of respect that you deserve from the general public
Intensity when controlling frequency Dealing with " difficult " patients	

As with the previous studies in the thesis, the present studies results also showed that there were some differences in terms of identification of frequency and intensity of job related stress sources. In contrast to the second study, significant differences emerged between the two countries in terms of the perceived stress scale among senior house officers. Interpretation of this result is given in a later section.

8.2.1.3. Newly graduated teachers

The fourth study examined the frequency and intensity of job related stress sources in new teachers in Turkey and Wales.

The results showed that there were no overall differences between Wales and Turkey in terms of either frequency or intensity of stress scores. Neither gender nor type of school influenced the overall stress scores in the two countries. Conversely, like previous studies, selective differences were also found in this study. The main items which showed significant differences regarding frequency, intensity and intensity when controlling frequency, are presented in Table 8.2.8 and 8.2.9. The items are presented in the Tables in terms of their rank order.

Table 8.2.8. The main items found more stressful by Turkish teachers in terms of frequency, intensity and intensity when controlling frequency

Frequency	Intensity	Intensity when controlling frequency
Lack of opportunities for professional improvement	Dealing with large classes	Inadequacies of school buildings and equipment
Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	Dealing with high noise levels	Noise and other disturbances from neighbouring classes
Lack of co-operation on the part of parents	Inadequate salary	Covering lessons for absent teachers
Problems with students' behaviour outside the class.	Students who do not come to class with necessary mat.	Dealing with large classes
Lack of concern about problems by senior staff	Lack of opportunities for professional improvement	Lack of opportunities for professional improvement

Table 8.2.9. The main items found more stressful by Welsh teachers in terms of frequency, intensity and intensity when controlling frequency

Frequency	Intensity	Intensity when controlling frequency
Lack of time to spend with individual pupils	Time pressures	Dealing with long hours work
Getting all the paper work done in time	Work overload	Time pressures
The job interfering with private life	Too much paperwork	Getting all the paperwork done in time
Punishing pupils	Getting all the paperwork done in time	Visits from government (or other) inspectors which include inspections of your classroom teaching
Dealing with mixed ability groups	Dealing with long hours work	

In general, Turkish teachers complained more about items related to lack of support, lack of good working conditions, classroom discipline and dealing with students behaviour whereas Welsh teachers rated items related to work overload, time pressures, and punishing students as more stressful. As in the previous studies in this thesis, the findings of this study also indicated that there were some differences in terms of identification of frequency and intensity of job related stress sources. In contrast to the third study, a difference between Welsh and Turkish teachers in terms of perceived stress was not found. The interpretations of this result is given in a later sections.

8.2.1.4. Overview of results of the survey studies

Although the survey studies were carried out among three different occupational groups in both countries, some of the results regarding the selective differences were consistent. The items which were related to lack

of support were always found more stressful by Turkish subjects whereas the items which were associated with work overload were usually rated more stressful by British subjects.

These results can be interpreted from two different perspectives. When the results are considered from a cross-cultural perspective, Turkey is defined as a collectivist country, therefore, values like getting support from friends, relatives etc., are really important in Turkish society. In addition, in Turkey, economic and political uncertainty is higher than in the UK, as can be seen from this recent newspaper statement (Cumhuriyet, 1995), "*political uncertainty in Turkey threatens the mental health of community and because of the crises in the government, the economic and political uncertainty, peoples' worry about their future, the violent approach of the leaders of the main parties and their lack of communication with each other, 10 out of every 100 reports that their mental health deteriorates.* " As a result of these cultural differences between the two countries, it might be the case that Turkish subjects need more support from friends, family, colleagues etc. to get on with their job than their British counterparts.

On the other hand, the results can be explained by considering differences in the features of jobs in two countries. As mentioned in previous chapters, Keinan and Perlberg (1987) stated that " *it is almost impossible to identify an identical occupation in two separate cultures* ". It has already been pointed out that Turkish and British JHOs have differences in their training and working practices. For example, British JHOs work in the hospital after graduation from university and they get a salary whilst Turkish JHOs work in the hospital before the graduation and they don't earn any money. Similarly, British JHOs work an on - call rota whereas Turkish JHOs have shiftwork. Similarly, Turkish and English SHOs have differences in their career development (choosing their specialities and their training time working as a SHO). For instance, British SHOs choose their specialities whereas Turkish SHOs have to pass exams to become SHOs, and their

future area depends mainly on their exam result not their choice. Therefore, it might be the case that these different features of the jobs in two countries cause different stresses and pressures among British and Turkish subjects.

There were also some very specific items which were found more stressful by British JHOs and SHOs such as 'interruption of the work by other people's phone calls'. This result is best explained by the better phone facilities in the British hospitals than in Turkish hospitals.

Similarly, 'dealing with your friends as patients', and 'dealing with your relatives as patients' were found to cause great stress in Turkish JHOs and SHOs. This result can be explained by characteristics of the Turkish sample which worked in their home area. In other words, it might be the case that the university hospital in Turkey where the first, second and third study were carried out, was chosen by students who are living near by.

Integration of the present results with previous findings:

When the findings of the survey studies were compared with other previous cross-cultural studies, it seems that only the results of the first study where Welsh JHOs reported more frequent overall stress than Turkish counterparts, supported those previous cross-cultural studies on occupational stress which showed overall differences between countries (e.g. Dunham, 1980; Kirkcaldy and Cooper, 1992; Gaziel, 1993). The findings of selective differences in occupational stress support some of the previous cross-cultural studies which indicated that there were differences in identification of job - related stress sources between countries (Cooper, 1984 ; Tokar and Feitler, 1986).

These studies also aimed to determine whether there are any differences between the identification of frequency and intensity of a job related stress sources. Frequency reflects how often they experienced stress during the day whilst intensity reflects how much stress they experienced. Regarding this topic, Firth - Cozens and Morrison (1989) investigated occurrence of

stressful events and ratings of how stressful these incidents were among junior house officers. They found some differences between the identification of the frequency and intensity of stress. Like the findings of Firth Cozens and Morrison's study, the results of the first and second studies in this thesis which were carried among junior house officers also showed some differences in both countries between the ratings of frequency and intensity of stress. The results of the third and fourth studies in this thesis which were carried out among senior house officers and newly graduated teachers also indicated similar results.

In the second, third and fourth studies, the perceived stress scale was given to subjects to see whether stress in general was perceived as higher in one country than another. A significant difference between the two countries was found only in the third study which was carried out among senior house officers. This result was explained by this group being at different stage of the career to the other subjects. Unlike the SHOs, JHOs and newly graduated teachers were beginning their working life. They were also mostly single and they didn't have family responsibilities. This might explain why the differences between two countries in terms of perceived stress scale was found only for SHOs. As mentioned earlier, because of the high inflation and political uncertainty, living conditions in Turkey are more difficult than in the UK. Since nearly half of the Turkish SHOs (39 %) were married therefore, they had more responsibilities which would also be influenced by high inflation. These reasons could account for the differences in perceived stress in the Turkish and British SHOs.

8.2.2. Methodological issues and implications for future work regarding occupational stress (survey studies)

There are some methodological problems with the survey studies in this thesis. One of the problems with these studies was the sample size and selection. The samples were relatively small and also restricted to only one

region in both of the countries. Therefore, if the same studies were run again, bigger samples with subjects recruited from the whole country should be selected.

Another limitation of the study was the questionnaires. The reliability and validity of the questionnaires were not tested. In addition, the questionnaires which were used in the survey studies were developed by the researcher based on previous studies in western countries. Therefore, the applicability of these questionnaires for Turkish subjects was also not known. It is clearly desirable, therefore, to rectify these problems in future research. Another problem was that there are no standardised measures of specific types of occupational stress. There are general occupational stress questionnaires such as the Occupational Stress Indicator-OSI (Cooper et al., 1988), the Health Professions Inventory (Wolfgang, 1988) and the Teacher Stress Inventory (Fimian, 1984) but these questionnaires were not developed to examine occupational stress sources among JHOs, SHOs and newly graduated teachers. Future research will be required to examine reliability and validity of new questionnaires and also to gain further understanding about the applicability of these measures to Turkish samples. The questionnaires which were used here in the survey studies, did not include open-ended questions and in further studies it would be desirable to use this type of question to gather more information.

The studies of occupational stress in the two countries showed that, generally, lack of support was found more stressful by Turkish subjects and these results were interpreted by referring to Turkey as a collectivist country. However, individualism / collectivism measurements were not taken from the subjects in these studies. Results from previous studies (Hofstede, 1980), led to the assumption that Turkey is a collectivist country whereas the UK is an individualist country. In future studies , individualism / collectivism questionnaires should be distributed to the subjects to see whether the distinction applies to the samples being studied.

8.2.3. Life stress

In the previous studies , Turkey and the UK were compared in terms of occupational stress sources. As mentioned above , there are problems with this type of study. Therefore, life stress was examined in the fifth study . The fifth study was based on transactional approaches which argue that stress depends on the interaction between person and his environment. Different culture can potentially be an important environmental factor. In this study, interest was focused more on outcomes of stress rather than exposure to stress. Indeed, a main aim was to determine whether psycho - social factors (social support and hassles) influence health in the same way in the two countries. The fifth study was carried out among first year university students for several reasons . First, university students are less likely to be influenced by specific features which was the main problem in the occupational studies. Secondly, freshmen are closely related in age to JHOs and new teachers. The last reason was that there is a vast literature on stress among university students which shows that a large number of university students, especially freshmen, experience stress.

Previous studies results in this thesis suggest that social support can be an important cultural factor. Social support was, therefore, chosen as a psychosocial variable in this study. Previous results have shown that daily hassles are a better predictor of symptoms than more major life events. Therefore, daily hassles were examined here.

The results showed that effects of psycho-social factors on health were similar in both countries. The relationships between hassles and health supported results from previous studies (Monroes et al., 1983; Weinberger et al., 1987; Delongis et al., 1988) and showed that increased daily hassles are associated with more negative symptoms. Similarly, the results of the study on social support and health supported previous findings (e.g. La Rocco, et al., 1980, Goplerud, 1980) with more social support being

associated with fewer symptoms. However, there was no evidence of a buffering effect of social support. The results also showed that health related behaviours (smoking and sleep) were related to either psycho-social factors and outcome measures (or both) in same ways in both countries. On the other hand, it was also found that exercise was not related to these types of variable in either country.

Overall, it seems that although there are differences between the countries for psychosocial factors, outcomes measures and health related behaviours, these factors still appeared to show similar relationships to one another in England and Turkey. Therefore, this suggests that investigation of exposure to stress rather than response to stress may be the important factor.

8.2.4. Methodological issues and implications for future work regarding life stress

The questionnaires which were used in this study, were developed by researchers in western countries. Like the other questionnaires which were used in the survey studies, the applicability of these questionnaires for a Turkish sample is not known. To understand the applicability of these questionnaires for Turkish samples, further research will be required. Once again, the sample of this studies was restricted to only one region in both countries. Therefore, further studies with bigger samples recruited from the whole country are needed.

There were global differences between Turkey and the UK in life stress but not occupational stress (except study 1). To get a better understanding of this difference it will be necessary to compare regarding the life stress of professionals in the two countries.

8.2.5. Acute stress

The last study examined effects of stress and noise on performance, effort, mood and cardiovascular functions in Turkey and England within the framework of the adaptive cost model. The research , therefore, moved away from studies of chronic stress to examining effects of acute stress. Similarly, there was a move from survey studies to an experimental one. The main advantage of this type of study was that it gave an opportunity to use a paradigm which provides many opportunities for cross-cultural differences to emerge. In other words, the sixth study compared the two countries from different perspectives (e.g. emotional, cognitive, physiology).

The major cross - cultural differences between the two countries were found only at baseline (prior to exposure to noise) which makes the adaptive cost model redundant. The results were interpreted in terms of the familiarity with this kind of experiment. Turkish subjects were not familiar with this kind of experiment and as they became familiar with the task, their performance also became better as well.

The adaptive cost model was not supported by the findings of this study. Therefore, these results didn't support the findings of the Evans, Allen and Tafalla, 1993 which showed partial support of ' Adaptive cost model ' , and played similar noise to that used by Glass and Singer, which included a conglomerate of traffic noise, office machines and foreign speech, at a level of 90 dBA.

Overall, when the present study results are considered in relation to the findings of the previous studies in this thesis , it supported the idea that there were few global differences between Turkey and England. In addition, there were also relatively, few differences in response to stress. This result still supported the view that it is exposure to stress between the countries that is important.

8.2.6. Methodological issues and implications for future work regarding acute stress

As mentioned earlier, previous studies of noise show inconsistent results. These inconsistencies in the noise and performance literature can be explained taking into account the nature of the stress, nature of task and characteristics of the person doing the task (Smith, 1993). Therefore, to test whether subjects from the two countries show differences in terms of acute stress , as predicted by the adaptive cost model, different noise levels and types of noise need to be used and other task parameters kept similar to previous studies.

8.3. Overall conclusions and concluding remarks

Turkey and the UK have different cultural characteristics which may reflect their economy, religions, political tensions and social relationships. Therefore, it was assumed that cultural differences may emerge in exposure and response to stress. To examine this, six studies were carried out in both countries. It is important to remind the reader once more that no previous studies have compared Turkey and the UK in terms of stress. In the present studies, different methods were used. The results of these studies do not lead to firm conclusions about cultural differences in stress in Turkey and the UK. At the end of the survey studies, it was still not clear whether the selective differences between the two countries could be attributed to specific features of the job or culture. Therefore, in the fifth study, a different approach was used to examine stress. This study showed that psycho - social factors influenced health in same way in two countries and that there were global differences in life stress between the two countries. There are inevitable problems in field studies and the final study was conducted in the laboratory. The last study was designed to examine whether the adaptive cost - model applies to acute effects of noise in the two countries. The main difference between the countries were found only prior

to exposure to noise which makes the adaptive cost - model redundant. Clearly further studies, like those suggested earlier in this chapter, are needed to answer the question of whether there are cultural differences in exposure or response to stress in Turkey and the UK. Although the studies reported in this thesis can't answer this question, they have provided preliminary data on the topic. Indeed, the findings of these studies will give other researchers interested in comparing Turkey with the UK an idea as to the way to proceed. Furthermore, the findings of the present studies also contribute to the general issue of whether there are cross - cultural differences in stress.

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APPENDIX 1: Analyses of Variance and Co - Variance Tables of Study 1

Table 1.1. Types of stress which didn't show any significant differences between two countries in terms of identification of frequency stress sources (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. Mean / S.D
Lack of a good physical work environment					**0.88 / 1,87**
Wales-	6	58	21	15	1.45 / 0.83
Turkey-	13	32	34	21	1.64 / 0.96
Not having enough staff to adequately provide necessary services					**0.04 / 1,87**
Wales-	0	30	30	40	2.09 / 0.84
Turkey-	6	23	32	39	2.05 / 0.92
Lack of an opportunity to talk openly with other unit personnel about problems on the unit					**0.84 / 1,87**
Wales-	15	55	18	12	1.27 / 0.88
Turkey-	16	41	23	20	1.46 / 0.99
Feeling helpless in the case of a patient who fails to improve					**0.46 / 1,87**
Wales-	6	73	18	3	1.18 / 0.58
Turkey-	13	70	14	3	1.09 / 0.64
Lack of an opportunity share experiences with other personnel on the unit					**2.48 / 1, 87**
Wales-	36	43	15	6	0.91 / 0.88
Turkey-	17	57	26	0	1.26 / 1.12
Lack of career advice					**0.69 / 1,87**
Wales-	12	43	18	27	1.61 / 1.03
Turkey-	8	31	50	11	1.80 / 1.12
Lack of time for social life					**0.12 / 0.73**
Wales-	3	21	36	40	2.12 / 0.86
Turkey-	5	20	39	36	2.05 / 0.88
Fear of making a mistake about treatment					**1.10 / 1,87**
Wales-	6	73	18	3	1.52 / 0.62
Turkey-	9	52	34	5	1.36 / 0.72
Not enough time to complete all of my duties					**0.75 / 1,87**
Wales-	3	58	18	21	1.58 / 0.87
Turkey-	14	41	34	11	1.41 / 0.87
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients					**3.30 / 1,87**
Wales-	3	73	18	6	1.27 / 0.63
Turkey-	20	59	21	0	1.02 / 0.65
Lack of teaching					**1.29 / 1,87**
Wales-	6	43	24	27	1.73 / 0.94
Turkey-	3	26	41	28	1.95 / 0.84

Table 1.2. The items which didn't show any significant differences between two countries in terms of identification of intensity stress sources (as %)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s Mean / SD.
Awareness of lack of knowledge / skills					**2.65 / 1,87**
Wales-	6	27	52	15	1.76 / 0.79
Turkey-	4	64	25	7	1.45 / 0.91
Lack of a good physical work environment					**1.36 / 1,87**
Wales-	6	46	33	15	1.58 / 0.83
Turkey-	9	35	32	24	1.86 / 1.23
Dealing with patient's relatives					**0.33 / 1.87**
Wales-	3	58	33	6	1.42 / 0.66
Turkey-	7	51	31	11	1.54 / 0.99
Problems with senior doctors					**0.12 / 1,87**
Wales-	16	66	9	9	1.27 / 1.15
Turkey-	16	49	26	9	1.36 / 1.05
Dealing with your relatives as patients					**1.18 / 1, 87**
Wales-	52	19	22	7	1.79 / 2.22
Turkey-	26	36	20	18	1.39 / 1.22
Not having enough staff to adequately provide necessary services					**0.51 / 1, 87**
Wales-	0	12	42	46	2.33 . 0.69
Turkey-	8	21	41	30	2.16 / 1.28
Lack of an opportunity to talk openly with other unit personnel about problems on the unit					**0.03 / 1, 87**
Wales-	19	49	32	0	1.42 / 1.37
Turkey-	17	57	15	11	1.38 / 1.23
Dealing with death and dying					**0.18 / 1, 87**
Wales-	3	49	33	15	1.61 / 0.79
Turkey-	9	51	23	17	1.71 / 1.35
Feeling helpless in the case of a patient who fails to improve					**0.81 / 1, 87**
Wales-	6	31	47	16	1.85 / 1.09
Turkey-	5	56	26	13	1.63 / 1.15
Problems with nurses					**0.13 / 1, 87**
Wales-	28	35	28	9	1.33 / 1.27
Turkey-	28	48	15	9	1.23 / 1.28
Lack of an opportunity to share experiences with other personnel on the unit					**3.22 / 1, 87**
Wales-	44	50	6	0	0.79 / 1.11
Turkey-	24	51	23	2	1.29 / 1.35
Work interferes with domestic life					**3.20 / 1, 87**
Wales-	3	24	43	30	2.00 / 0.83
Turkey-	11	52	22	15	1.57 / 1.22
Dealing with new technology					**0.05 / 1, 87**
Wales-	24	64	9	3	0.91 / 0.68
Turkey-	42	49	9	0	0.96 / 1.36
Criticism by a supervisor					**3.78 / 1, 87**
Wales-	15	46	27	12	1.36 / 0.90
Turkey-	4	41	43	12	1.81 / 1.10

Table 1.2. The items which didn't show any significant differences between two countries in terms of identification of intensity stress sources (as %) (continued)

ITEMS					F's / d.f.s
	No stress	Little stress	Moderate stress	Great stress	Mean / SD.
Lack of time for social life					**1.74 / 1,87**
Wales-	3	21	58	18	1.91 / 0.72
Turkey-	4	22	39	35	2.20 / 1.12
Fear of making a mistake about treatment					**1.19 / 1, 87**
Wales-	0	37	39	24	1.88 / 0.78
Turkey-	6	44	38	12	1.66 / 0.98
Not enough time to complete all of my duties					**2.40 / 1, 87**
Wales-	3	33	40	24	1.85 / 0.83
Turkey-	11	47	29	13	1.52 / 1.04
Dealing with your friends as patients					**0.56 / 1, 87**
Wales-	62	24	14	0	1.18 / 1.94
Turkey-	36	44	18	2	0.95 / 1.03
Lack of support from senior staff					**1.63 / 1, 87**
Wales-	24	34	24	18	1.36 / 1.06
Turkey-	9	41	39	11	1.68 / 1.16
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients					**0.03 / 1, 87**
Wales-	6	52	39	3	1.39 / 0.66
Turkey-	13	56	22	9	1.36 / 1.02
Number of beds responsible for					**0.19 / 1, 87**
Wales-	3	27	49	21	1.88 / 0.78
Turkey-	11	27	42	20	1.79 / 1.07
Problems with other JHOs					**1.56 / 1, 87**
Wales-	56	44	0	0	0.61 / 1.09
Turkey-	31	60	9	0	0.88 / 0.92
Caring for the emotional needs of patients					**0.07 / 1, 87**
Wales-	12	61	27	0	1.15 / 0.62
Turkey-	33	48	13	6	1.09 / 1.25

Table 1.3. The items which didn't show any significant differences between two countries in terms of intensity when controlling frequency stress sources

ITEMS	WALES		TURKEY		F's / d.f.s
	Adjusted Mean	SE.	Adjusted Mean	SE.	
Dealing with " difficult " patients	1.85	1.15	1.51	0.11	**3.36 / 1, 86**
Awareness of lack of knowledge / skills	1.50	0.14	1.60	0.11	**0.27 / 1, 86**
Lack of a good physical work environment	1.65	0.16	1.81	0.13	**0.61 / 1, 86**
Dealing with patients' relatives	1.30	0.13	1.61	0.10	**3.39 / 1, 86**
Problems with senior doctors	1.04	0.18	1.49	0.14	**3.51 / 1, 86**
Dealing with your relatives as patients	1.81	0.30	1.38	0.23	**1.24 / 1, 86**
Work overload	2.35	0.13	2.06	0.10	**3.26 / 1, 86**
Not having enough staff to adequately provide necessary services	2.32	0.17	2.17	0.13	**0.51 / 1, 86**
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	1.48	0.21	1.34	0.16	**0.30 / 1, 86**
Feeling helpless in the case of a patient who fails to improve	1.81	0.18	1.65	0.14	**0.47 / 1, 86**
Problems with nurses	1.03	0.23	1.41	0.17	**1.68 / 1, 86**
Lack of an opportunity to share experiences with other personnel on the unit	0.90	0.20	1.22	0.15	**1.52 / 1, 86**
Work interferes with domestic life	1.48	0.17	1.88	0.12	**3.24 / 1, 86**
Dealing with new technology	0.75	0.21	1.06	0.16	**1.38 / 1, 86**
Criticism by a supervisor	1.53	0.16	1.71	0.12	**0.73 / 1, 86**
Interruptions of work with other people 's phone calls	1.67	0.18	1.64	0.13	**0.02 / 1, 86**
Lack of time for social life	1.88	0.16	2.21	0.12	**2.59 / 1, 86**
Fear of making a mistake about treatment	1.82	0.15	1.69	0.11	**0.50 / 1, 86**
Not enough time to complete all of my duties	1.77	0.13	1.56	0.10	**1.66 / 1, 86**

Table 1.3. The items which didn't show any significant differences between two countries in terms of intensity when controlling frequency (continued)

ITEMS				
	WALES		TURKEY	
	Adjusted Mean	SE.	Adjusted Mean	SE.	F's / d.f.s
Dealing with your friends as patients				
	1.36	0.25	0.84	0.19	**2.46 / 1, 86**
Lack of support from senior staff				
	1.51	0.18	1.59	0.14	**0.13 / 1, 86**
Being uncertain about what to tell a patient or family about the patient's condition / or needs of patients				
	1.30	0.15	1.41	0.11	**0.33 / 1, 86**
Dealing with long working hours				
	2.24	0.14	2.04	0.10	**1.33 / 1, 86**
Number of beds responsible for				
	1.74	0.16	1.87	0.12	**0.39 / 1, 86**
Caring for the emotional needs of patients				
	0.91	0.18	1.23	0.13	**1.96 / 1, 86**

APPENDIX 2: Analyses of Variance, Co - Variance and Factor Analysis Tables of Study 2

Table 2.1. Types of stress which didn't show any significant differences between two countries in terms of identification of frequency of stress sources (as %)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's/ d.f.s. Mean / SD.
Dealing with " difficult " patients					**0.31 / 1, 108**
Turkey-	12	59	27	2	1.18 / 0.67
England-	0	79	18	3	1.24 / 0.51
Problems with senior doctors					**0.29 / 1, 107**
Turkey-	25	52	13	10	1.08 / 0.90
England-	20	65	10	5	1.00 / 0.71
Work overload					**1.37 / 1, 108**
Turkey-	12	31	35	22	1.67 / 0.97
England-	2	33	42	23	1.87 / 0.79
Not having enough staff to adequately provide necessary services					**2.55 / 1,108**
Turkey-	2	31	35	22	2.16 / 0.83
England-	0	33	42	23	1.92 / 0.78
Feeling helpless in the case of a patient who fails to improve					**0.16 / 1,108**
Turkey-	10	61	25	4	1.22 / 0.69
England-	10	59	25	6	1.28 / 0.73
Problems with nurses					**1.25 / 1, 107**
Turkey-	25	59	6	10	1.02 / 0.85
England-	3	78	17	2	1.17 / 0.49
Dealing with new technology					**3.59 / 1, 107**
Turkey-	50	46	4	0	0.54 / 0.58
England-	37	48	13	2	0.79 / 0.73
Lack of career advice					**0.46 / 1, 106**
Turkey-	19	33	40	8	1.38 / 0.89
England-	25	40	20	15	1.25 / 1.00
Fear of making a mistake about treatment					**1.07 / 1, 108**
Turkey-	6	59	27	8	1.37 / 0.73
England-	2	55	33	10	1.51 / 0.70
Not enough time to complete all of my duties					**2.30 / 1, 107**
Turkey-	16	53	16	15	1.29 / 0.91
England-	5	50	32	13	1.53 / 0.79
Not knowing what type of job performance is expected					**2.72 / 1, 106**
Turkey-	10	43	29	18	1.55 / 0.91
England-	19	42	32	7	1.27 / 0.85

Table 2.2. The items which didn't show any significant differences between two countries in terms of identification of intensity stress sources (as %)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's/ d.f.s. Mean / SD.
Awareness of lack of knowledge / skills					**1.24 / 1,105**
Turkey-	10	43	35	12	1.49 / 0.85
England-	2	41	47	10	1.66 / 0.69
Not having enough staff to adequately provide necessary services					**0.00 / 1,104**
Turkey-	4	20	41	35	2.06 / 0.85
England-	6	12	54	28	2.05 / 0.79
Dealing with death and dying					**0.31 / 1,103**
Turkey-	20	35	20	25	1.49 / 1.08
England-	7	34	52	7	1.59 / 0.73
Feeling helpless in the case of a patient who fails to improve					**0.04 / 1,105**
Turkey-	14	37	29	20	1.55 / 0.98
England-	9	32	50	9	1.59 / 0.77
Problems with nurses					**1.64 / 1,104**
Turkey-	35	37	24	4	0.98 / 0.88
England-	19	49	25	7	1.19 / 0.83
Work interferes with domestic life					**3.62 / 1,104**
Turkey-	8	47	27	18	1.55 / 0.89
England-	9	25	35	31	1.90 / 0.96
Dealing with new technology					**2.47 / 1,105**
Turkey-	43	37	18	2	0.80 / 0.82
England-	53	36	0	0	0.57 / 0.68
Lack of time for social life					**0.47 / 1,105**
Turkey-	4	31	29	36	1.98 / 0.92
England-	5	28	43	24	1.86 / 0.85
Lack of support from senior staff					**0.33 / 1, 104**
Turkey-	8	49	29	14	1.49 / 0.85
England-	23	30	33	14	1.39 / 0.99
Not knowing what type of job performance is expected					**0.72 / 1, 105**
Turkey-	10	51	29	10	1.39 / 0.81
England-	16	47	34	3	1.26 / 0.76

Table 2.3. The items which didn't show any significant differences between two countries in terms of intensity when controlling frequency

ITEMS	ENGLAND		TURKEY		F's / d.f.s.
	Mean	SE.	Mean	SE.	
Awareness of lack of knowledge / skills	1.53	0.10	1.64	0.11	**0.51 / 1, 104**
Lack of a good physical work environment	1.25	0.10	1.49	0.10	**2.77 / 1, 102**
Dealing with patients' relatives	1.42	0.09	1.27	0.10	**1.20 / 1, 103**
Problems with senior doctors	1.09	0.10	1.37	0.11	**3.38 / 1, 101**
Dealing with your relatives as patients	0.54	0.11	0.81	0.11	**2.78 / 1, 95**
Work overload	2.21	0.10	1.95	0.11	**3.14 / 1, 104**
Not having enough staff to adequately provide necessary services	2.14	0.09	1.96	0.09	**1.76 / 1, 103**
Dealing with death and dying	1.48	0.12	1.61	0.13	**0.48 / 1, 102**
Feeling helpless in the case of a patient who fails to improve	1.57	0.10	1.58	0.11	**0.00 / 1, 104**
Problems with nurses	1.13	0.09	1.05	0.10	**0.41 / 1, 103**
Lack of an opportunity to share experiences with other personnel on the unit	0.68	0.09	0.82	0.11	**0.84 / 0.36**
Work interferes with domestic life	1.75	0.11	1.71	0.11	**0.07 / 1, 102**
Criticism by a supervisor	1.55	0.12	1.50	0.13	**0.07 / 1, 103**
Interruptions of work by other people's phone calls	1.65	0.10	1.65	0.11	**0.00 / 1, 102**
Fear of making a mistake about treatment	1.82	0.09	1.58	0.10	**2.94 / 1, 104**
Dealing with your friends as patients	0.64	0.10	0.67	0.10	**0.06 / 1, 96**
Lack of support from senior staff	1.58	0.10	1.27	0.11	**3.82 / 1, 103**
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	1.34	0.08	1.27	0.09	**0.34 / 1, 102**
Dealing with long working hours	2.27	0.08	2.13	0.09	**1.18 / 1, 104**
Number of beds responsible for	1.53	0.11	1.62	0.12	**0.32 / 1, 107**
Problems with other JHOs	0.64	0.08	0.80	0.09	**1.64 / 1, 99**
Caring for the emotional needs of patients	1.15	0.08	1.00	0.09	**1.48 / 1, 102**
Not knowing what type of job performance is expected	1.36	0.09	1.32	0.09	**0.12/ 1, 102**

Table 2.4. Factor analysis of job stressors in terms of frequency among Welsh / English junior house officers (combined data : study 1 + study 2)

FACTOR 1: (23 % of variance) Lack of support and advice	**Loadings**
Lack of career advice	0.77
Lack of teaching	0.75
Lack of support from senior staff	0.59
Not knowing what type of job performance is expected	0.54
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.54
FACTOR 2: (10 % of variance) Problems with other staff	
Problems with nurses	0.90
Problems with senior doctors	0.85
Problems with other JHOs	0.73
Number of beds responsible for	0.72
FACTOR 3: (8 % of variance) Work overload	
Lack of time for social life	0.86
Work interferes with domestic life	0.79
Dealing with long working hours	0.73
FACTOR 4: (7 % of variance)	
Dealing with death and dying	0.77
Feeling helpless in the case of a patient who fails to improve	0.66
Dealing with patients' relatives	0.60
Caring for the emotional needs of patients	0.59
FACTOR 5: (6 % of variance) Lack of resources and support	
Lack of a good physical work environment	0.71
Lack of respect that you deserve from the general public	0.69
Dealing " difficult " patients	0.67
FACTOR 6: (5 % of variance)	
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	0.82
FACTOR 7: (4 % of variance)	
Dealing with your relatives as patients	0.73
Criticism by supervisor	-0.56
Awareness of lack of knowledge / skills	0.52
FACTOR 8: (4 % of variance)	
Dealing with new technology	0.69
Dealing with your friends as patients	0.55
FACTOR 9: (3 % of variance)	
Interruptions of work by other people's phone calls	0.77

Table 2.5. Factor analysis of job stressors in terms of frequency among Turkish junior house officers (combined data : study 1 + study 2)

FACTOR 1: (21% of variance) Lack of support	**Loadings**
Lack of support from senior staff	0.69
Lack of teaching	0.61
Number of beds responsible for	0.54
Lack of respect that you deserve from the general public	0.54
FACTOR 2: (7 % of variance) Lack of resources	
Dealing with patient relatives	0.74
Not having enough staff to adequately provide necessary services	0.71
Lack of a good physical work environment	0.59
FACTOR 3: (6 % of variance)	
Work interferes with domestic life	0.75
Feeling helpless in the case of a patient who fails to improve	0.63
Problems with other JHOs	0.54
Dealing with death and dying	0.53
FACTOR 4: (6 % of variance) Insecurity about their knowledge	
Awareness of lack of knowledge / skills	0.74
Not enough time to complete all of my duties	0.56
Fear of making a mistake about treatment	0.54
FACTOR 5: (5 % of variance)	
Problems with senior doctors	0.75
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	0.64
FACTOR 6: (5 % of variance)	
Caring for the emotional needs of patients	0.85
FACTOR 7: (5 % of variance)	
Dealing with new technology	0.80
Dealing with your friends as patients	0.73
FACTOR 8: (4 % of variance)	
Interruptions of work by other people's phone calls	-0.63
Lack of career advice	0.57
Lack of an opportunity to share experiences with other personnel on the unit	0.55
FACTOR 9: (3 % of variance)	
Dealing with your relatives as patients	0.81
FACTOR 10: (3 % of variance)	
Dealing with " difficult " patients	0.87

Table 2.6. Factor analysis of job stressors in terms of intensity among Welsh and English junior house officers (combined data : study 1 + study 2)

FACTOR 1: (26 % of variance) Insecurity about their knowledge	**Loadings**
Lack of teaching	0.80
Fear of making a mistake about treatment	0.76
Awareness of lack of knowledge / skills	0.61
FACTOR 2: (9 % of variance) Problems with other staff	
Problems with JHOs	0.87
Problems with senior doctors	0.72
Dealing with new technology	0.59
Feeling helpless in the case of a patient who fails to improve	0.57
Lack of the respect that you deserve from the general public	0.54
FACTOR 3: (8 % of variance) Dealing with patient and their relatives	
Dealing with patients' relatives	0.80
Dealing with " difficult " patients	0.73
Dealing with death and dying	0.67
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	0.62
Caring for the emotional needs of patients	0.58
FACTOR 4: (7 % of variance) Dealing with your friends and relatives as patients	0.90
Dealing with your friends as patients	0.87
Dealing with your relatives as patients	0.72
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	
FACTOR 5: (6 % of variance)	
Work interferes with domestic life	0.88
Lack of time for social life	0.84
Dealing with long working hours	0.65
FACTOR 6: (5 % of variance) Work overload	
Work overload	0.74
Not enough time to complete all of my duties	0.72
Not enough staff to adequately provide necessary services	0.62
FACTOR 7: (4 % of variance) Lack of support	
Criticism by supervisor	0.76
Lack of support from senior staff	0.70
Not knowing what type of job performance is expected	0.60
FACTOR 8: (4 % of variance)	
Problems with nurses	0.77
Interruptions of work by other people's phone calls	0.70
Number of beds responsible for	0.52
FACTOR 9: (3 % of variance)	
Lack of career advice	0.53

Table 2.7. Factor analysis of job stressors in terms of intensity among Turkish junior house officers (combined data : study 1 + study 2)

FACTOR 1: (38 % of variance) Lack of support	**Loadings**
Problems with nurses	0.70
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.70
Lack of an opportunity to share experiences with other personnel on the unit	0.69
Dealing with new technology	0.66
Dealing with death and dying	0.61
Work interferes with domestic life	0.61
Feeling helpless in the case of a patient who fails to improve	0.59
Criticism by supervisor	0.56
FACTOR 2: (7 % of variance) Work overload	
Dealing with long working hours	0.69
Work overload	0.66
Fear of making a mistake about treatment	0.62
Lack of time for social life	0.56
Number of beds responsible for	0.53
FACTOR 3: (6 % of variance) Dealing with patients and problems with other staff	
Problems with other JHOs	0.67
Dealing with " difficult " patients	0.58
Awareness of lack knowledge / skills	0.58
Problems with senior doctors	0.58
Interruptions of work by other people's phone call	0.51
FACTOR 4: (5 % of variance)	
Caring for the emotional needs of patients	0.64
Dealing with patients' relatives	0.51
FACTOR 5: (4 % of variance) Lack of support and advice	
Lack of respect that you deserve from the general public	0.71
Lack of support from senior staff	0.67
Lack of career advice	0.53
Lack of teaching	0.52
FACTOR 6: (4 % of variance) Lack of good working conditions	
Not having enough staff to adequately provide necessary services	0.79
Lack of a good physical work environment	0.50

Table 2.8. The factors showed country x study interactions in terms of frequency

ITEMS				
	UK		**TURKEY**	
Study 1 Mean SD.	**Study 2** Mean SD.	**Study 1** Mean SD.	**Study 2** Mean SD.	**F's / d.f.s. / P's**
Factor 2 *				
2.17	0.97	1.16	1.21	
1.50	0.46	0.47	0.57	18.98 / 1,47 / $p < 0.01$
Factor 4 **				
1.56	1.29	1.39	1.48	
0.32	0.38	0.56	0.53	7.06 / 1,193 / $p < 0.01$
Factor 9 *				
1.52	1.23	1.66	1.76	
0.72	0.60	0.76	0.59	3.91 / 1, 193 / $p < 0.05$

*: The item which showed main effect and country x study interaction

**: The item which showed only country x study interaction

Table 2.9. The factors which didn't show either main effect or country x study interaction between two countries in terms of frequency

ITEMS				
	UK		**TURKEY**	
Study 1 Mean SD.	**Study 2** Mean SD.	**Study 1** Mean SD.	**Study 2** Mean SD.	**F's / d.f.s. / P's** **Country effect** **Country x study inter.**
Factor 1				
1.78	1.59	1.66	1.67	0.04 / 1,193 / p=ns
0.63	0.62	0.70	0.65	1.18 / 1, 193 / p=ns
Factor 5				
1.35	1.39	1.22	1.30	1.76 / 1,195 / p=ns
0.52	0.63	0.57	0.55	0.03 / 1,195 / p=ns

Table 2.10. The factor showed country x study interaction in terms of intensity

ITEMS				
	UK		**TURKEY**	
Study 1 Mean SD.	**Study 2** Mean SD.	**Study 1** Mean SD.	**Study 2** Mean SD.	**F's / d.f.s. / P's**
Factor 6 **				
1.49	0.39	1.17	0.95	
1.95	0.66	1.01	0.69	5.04 / 1, 54 / $p < 0.05$

**: The item which showed only country x study interaction

Table 2.11. The factors which didn't show either main effect or country x study interaction between two countries in terms of intensity

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	**Country effect**
SD.	SD.	SD.	SD.	**Country x study inter.**
Factor 4				
31.56	31.51	31.50	31.42	1.90 / 1, 192 / p=ns
0.38	0.30	0.48	0.36	0.05 / 1, 192 / p=ns

Table 2.12. The factors showed country x study interactions in terms of intensity when controlling frequency

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	
SE.	SE.	SE.	SE.	
Factor 1 *				
0.95	1.23	1.46	1.26	
0.08	0.07	0.07	0.07	10.51 /1, 181 / $p < 0.001$
Factor 6 **				
1.63	0.59	1.04	0.80	
0.19	0.17	0.15	0.16	6.08 / 1,180 / $p < 0.05$

*: The item which showed main effect and country x study interaction

**: The item which showed only country x study interaction

Table 2.13. The factors which didn't show either main effect or country x study interaction between two countries in terms of intensity when controlling frequency

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	**Country**
SE.	SE.	SE.	SE.	**Country x study inter.**
Factor 3				
1.98	2.03	2.08	1.92	0.00 / 1, 189 / p=ns
0.09	0.07	0.07	0.08	1.85 / 1,189 / p=ns
Factor 4				
31.48	31.42	31.58	31.49	2.65 / 1, 187 / p=ns
0.06	0.05	0.05	0.05	0.06 / 1,187 / p=ns
Factor 5				
1.74	1.58	1.76	1.55	0.00 / 1, 189 / p=ns
0.14	0.11	0.11	0.11	0.04 / 1, 189 / p=ns
Factor 7				
1.64	1.64	1.66	1.64	0.01 / 1, 191 / p=ns
0.11	0.08	0.08	0.09	0.02 / 1, 191 / p=ns

Table 2.14. The items showed country x study interactions in terms of frequency

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	
Mean	Mean	Mean	Mean	**F's / d.f.s. / P's**
SD.	SD.	SD.	SD.	
Problems dealing with senior doctors *				
2.21	1.00	1.09	1.08	
1.93	0.71	0.77	0.89	15.04 / 1,194 / $p < 0.001$
Problems with nurses *				
2.45	1.17	1.12	1.02	
1.72	0.49	0.83	0.85	17.55/ 1, 194 / $p < 0.001$
Work interferes with domestic life *				
2.33	1.90	1.36	1.43	
0.74	0.84	0.80	0.82	4.62 / 1,194/ $p < 0.05$
Interruptions of work by other people's phone calls *				
2.70	2.45	1.09	1.31	
0.53	0.62	0.84	0.92	4.42 / 1,194 / $p<0.001$
Lack of time for social life **				
2.12	1.87	2.05	2.29	
0.86	0.85	0.88	0.76	3.92 / 1,195 / $p < 0.05$
Number of beds responsible for **				
2.45	0.93	1.66	1.69	
1.73	0.95	0.90	1.0	22.80 / 1, 195 /$p < 0.001$
Problems with other junior house officers **				
1.58	0.41	0.75	1.06	
1.95	0.56	0.58	0.83	25.81 / 1, 193 /$p < 0.001$

*: The item which showed main effect and country x study interaction
**: The item which showed only country x study interaction

Table 2.15. The items which didn't show either main effect or country x study interaction between two countries in terms of frequency

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	**Country**
SD.	SD.	SD.	SD.	**Country x study inter.**
Not having enough staff to adequately provide necessary services				
2.09	1.92	2.05	2.16	0.71 / 1,195 / p=ns
0.84	0.78	0.92	0.83	1.32 / 1,195 / p=ns
Feeling helpless in the case of a patient who fails to improve				
1.18	1.28	1.09	1.22	0.56 / 1, 195 / p=ns
0.58	0.73	0.64	0.69	0.04 / 1, 195 / p=ns
Lack of career advice				
1.61	1.25	1.80	1.38	1.18 / 1,193 / p=ns
1.03	1.00	1.12	0.89	0.06 / 1, 193 / p=ns
Fear of making a mistake about treatment				
1.52	1.51	1.36	1.37	2.14 / 1, 195 / p=ns
0.62	0.70	0.72	0.73	0.01 / 1, 195 / p=ns

Table 2.16. The items which showed country x study interactions in terms of intensity

ITEMS				
UK		**TURKEY**		
Study 1 Mean SD.	**Study 2** Mean SD.	**Study 1** Mean SD.	**Study 2** Mean SD.	**F's / d.f.s. / P's**
Not knowing what type of job performance is expected *				
1.06	1.26	1.77	1.39	
0.79	0.76	0.95	0.81	5.56 / 1, 192 / $p < 0.05$
Problems with senior doctors **				
1.79	0.38	1.39	0.96	
2.22	0.70	1.22	0.84	6.65 / 1, 184 / $p < 0.05$
Dealing with your friends as patients **				
1.18	0.41	0.95	0.94	
1.94	0.73	1.03	0.81	5.15 / 1, 185 / $p < 0.05$
Dealing with your relatives as patients **				
1.79	0.38	1.39	0.96	
2.22	0.70	1.22	0.84	6.65 / 1,184 / $p < 0.05$
Number of beds responsible for **				
1.88	1.33	1.79	1.88	
0.78	0.93	1.07	1.05	5.05 / 1,195 / $p<0.05$

*: The item which showed main effect and country x study interaction

**: The item which showed only country x study interaction

Table 2.17. The items which didn't show either main effect or country x study interaction between two countries in terms of intensity

ITEMS				
UK		**TURKEY**		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	**Country effect**
SD.	SD.	SD.	SD.	**Country x study inter.**
Dealing with patient's relatives				
1.42	1.49	1.54	1.18	0.67/1,191 / p=ns
0.66	0.63	0.99	0.88	3.05 / 1.91 / p=ns
Problems with senior doctors				
1.27	1.07	1.36	1.43	2.29 / 1, 190 / p=ns
1.15	0.89	1.05	0.91	0.87 / 1, 190 / p=ns
Not having enough staff to adequately provide necessary services				
2.33	2.05	2.16	2.06	0.34 / 1,191 / p=ns
0.69	0.79	1.28	0.85	0.42 / 1, 191 / p=ns
Dealing with death and dying				
1.61	1.59	1.71	1.49	0.00 / 1, 190 / p=ns
0.79	0.73	1.35	1.08	0.46 / 1, 190 / p=ns
Feeling helpless in the case of a patient who fails to improve				
1.85	1.59	1.63	1.55	0.78 / 1, 192 / p=ns
1.09	0.77	1.15	0.98	0.41 / 1, 192 / p=ns
Problems with nurses				
1.33	1.19	1.23	0.98	1.01 / 1,191 / p=ns
1.27	0.83	1.28	0.88	0.13 / 1, 191 / p=ns
Dealing with new technology				
0.91	0.57	0.96	0.80	1.02 / 1, 191 / p=ns
0.68	0.68	1.36	0.82	0.38 / 1, 192 / p=ns
Lack of time for social life				
1.91	1.86	2.20	1.98	2.19 / 1, 192 / p=ns
0.72	0.85	1.12	0.92	0.39 / 1,192 / p=ns
Lack of support from senior staff				
1.36	1.39	1.68	1.49	1.95 / 1,191 / p=ns
1.06	1.00	1.16	0.85	0.50 / 1,191 / p=ns
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients				
1.40	1.45	1.36	1.12	2.37 / 1,192 / p=ns
0.66	0.71	1.02	0.73	1.50 / 1,192 / p=ns

Table 2.18. The items which showed interactions between country and study in terms of intensity when controlling frequency

ITEMS				
UK		**TURKEY**		
Study 1 Mean SE.	**Study 2** Mean SE.	**Study 1** Mean SE.	**Study 2** Mean SE.	**F's / d.f.s. / P's**
Dealing with your relatives as patients **				
1.86	0.48	1.32	0.91	
0.22	0.19	0.17	0.18	6.49 / 1, 182/ $p < 0.05$
Problems with nurses **				
0.82	1.26	1.33	1.13	
0.19	0.13	0.13	0.14	4.76 / 1, 190 / $p < 0.05$
Lack of time for social life **				
1.87	2.00	2.20	1.83	
0.13	0.10	0.10	0.11	5.13 / 1, 191 / $p< 0.05$
Not knowing what type of job performance is expected **				
1.26	1.37	1.64	1.32	
0.12	0.09	0.09	0.10	4.24 / 1,189 / $p < 0.05$

**: The item which showed only country x study interaction

Table 2.19. The items which didn't show either main effect or country x study interaction between two countries in terms of intensity when controlling frequency

ITEMS UK		TURKEY		
Study 1	**Study 2**	**Study 1**	**Study 2**	**F's / d.f.s. / P's**
Mean	Mean	Mean	Mean	**Country effect**
SE.	SE.	SE.	SE.	**Country x study inter.**
Awareness of lack of knowledge / skills				
1.52	1.52	1.58	1.66	0.72 / 1,191 / p=ns
0.13	0.10	0.10	0.11	0.11 / 1,191 / p=ns
Lack of a good physical work environment				
1.55	1.33	1.70	1.60	2.96 / 1,189 / p=ns
0.14	0.11	0.11	0.12	0.24 / 1,189 / p=ns
Dealing with patients' relatives				
1.29	1.43	1.56	1.32	0.52 / 1,190 / p=ns
0.13	0.10	0.10	0.11	3.28 / 1,190 / p=ns
Not having enough staff to adequately provide necessary services				
2.30	2.15	2.15	1.98	1.85 / 1,190 / p=ns
0.14	0.11	0.11	0.11	0.01 / 1, 190 / p=ns
Lack of an opportunity to talk openly with other unit personnel about.....				
1.38	0.87	1.24	1.16	
0.16	0.13	0.13	0.13	0.28 / 1, 190 / p=ns
				2.42 / 1, 190 / p=ns
Feeling helpless in the case of a patient who fails to improve				
1.86	1.52	1.69	1.54	0.32 / 1,191 / p=ns
0.16	0.12	0.12	0.13	0.47 / 1,191 / p=ns
Lack of an opportunity to share experiences with other personnel on the unit				
0.83	0.76	1.17	0.84	2.10 / 1,190 / p=ns
0.16	0.13	0.13	0.14	0.20 / 1,190 / p=ns
Work interferes with domestic life				
1.54	1.74	1.82	1.75	1.11 / 1,189 / p=ns
0.15	0.11	0.11	0.12	1.20 / 1, 189 / p=ns
Criticism by a supervisor				
1.49	1.58	1.66	1.55	0.24 / 1,190 / p=ns
0.15	0.12	0.12	0.13	0.63 / 1,190 / p=ns
Interruptions of work by other people's phone calls				
1.74	1.58	1.76	1.55	0.00 / 1,189 / p=ns
0.14	0.11	0.11	0.11	0.04 / 1,189 / p=ns
Fear of making a mistake about treatment				
1.83	1.81	1.71	1.57	2.65 / 1, 190 / p=ns
0.13	0.10	0.10	0.11	0.24 / 1, 190 /p=ns
Dealing with your friends as patients				
1.33	0.66	0.81	0.71	1.86 / 1, 183 / p=ns
0.19	0.16	0.14	0.16	3.24 / 1, 183 / p=ns
Lack of support from senior staff				
1.46	1.62	1.52	1.34	0.64 / 1, 190 / p=ns
0.15	0.12	0.12	0.13	1.71 / 1, 190 / p=ns
Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients				
1.31	1.33	1.44	1.24	0.02 / 1,189 / p=ns
0.12	0.10	0.10	0.10	1.06 / 1, 189 / p=ns
Dealing with long working hours				
2.27	2.24	2.07	2.10	2.61 / 1, 191 / p=ns
0.12	0.09	0.09	0.10	0.10 / 1, 191 / p=ns
Number of beds responsible for				
1.51	1.60	1.75	1.83	3.48 / 1, 194 / p=ns
0.16	0.12	0.12	0.12	0.00 / 1, 194 / p=ns
Caring for the emotional needs of patients				
0.96	1.11	1.22	1.01	0.37 / 1, 189 / p=ns
0.14	0.11	0.11	0.12	2.38 / 1, 189 / p=ns

APPENDIX 3: Analyses of Variance, Co - Variance and Factor Analysis Tables of Study 3

TABLE 3.1: Factor analysis of job stressors in terms of frequency among English senior house officers

FACTOR 1: (30 % of variance) Work overload	**Loadings**
Lack of time for social life	0.83
Work interferes with domestic life	0.79
Dealing with long working hours	0.73
Work overload	0.70
Not enough time to complete all of my duties	0.57
Not having enough staff to adequately provide necessary services	0.56
Interruptions of work by other people's phone calls	0.51
FACTOR 2: (8 % of variance) Insecurity about their knowledge	
Awareness of lack of knowledge / skills	0.74
Fear of making a mistake about treatment	0.73
Feeling helpless in the case of a patient who fails to improve	0.56
Lack of teaching	0.54
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	0.52
FACTOR 3: (6 % of variance) Dealing with patients and their relatives	
Dealing with death and dying	0.73
Number of beds responsible for	0.69
Dealing with patients' relatives	0.68
Caring for the emotional needs of patients	0.59
FACTOR 4: (6 % of variance) Lack of support	
Lack of an opportunity to share experiences with other personnel on the unit	0.74
Not knowing what type of job performance is expected	0.55
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.55
FACTOR 5: (5 % of variance) Lack of a good working conditions	
Lack of respect that you deserve from the general public	0.79
Lack of a good physical work environment	0.62
FACTOR 6: (5 % of variance)	
Problems with senior doctors	0.78
FACTOR 7: (4 % of variance)	
Dealing with your friends as patients	0.81
Dealing with your relatives as patients	0.78
FACTOR 8: (4 % of variance)	
Dealing with " difficult " patients	0.75
Dealing with new technology	0.64

TABLE 3.2: Factor analysis of job stressors in terms of frequency among Turkish senior house officers

FACTOR 1: (27 % of variance) Work overload	**Loadings**
Not enough time to complete all of my duties	0.81
Dealing with death and dying	0.73
Feeling helpless in the case of a patient who fails to improve	0.67
Number of beds responsible for	0.65
Dealing with long working hours	0.64
Work overload	0.59
Work interferes with domestic life	0.56
Lack of time for social life	0.52
FACTOR 2: (8 % of variance) Lack of support and good working conditions	0.75
Lack of an opportunity to share experiences with other personnel on the unit	0.72
Lack of a good physical work environment	0.59
Not having enough staff to adequately provide necessary services	0.56
Problems with nurses	
FACTOR 3: (7 % of variance)	
Dealing with your relatives as patients	0.83
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	0.58
FACTOR 4: (6 % of variance)	
Dealing with new technology	0.82
Interruptions of work by other people's phone calls	0.63
FACTOR 5: (5 % of variance)	
Lack of teaching	0.75
Problems with senior doctors	0.69
FACTOR 6: (5 % of variance)	
Dealing with " difficult " patients	0.74
Not knowing what type of job performance is expected	0.72
FACTOR 7: (4 % of variance)	
Dealing with patients' relatives	0.73
Dealing with your friends as patients	-0.67
FACTOR 8: (4 % of variance)	
Caring for the emotional needs of patients	0.82
FACTOR 9: (4 % of variance)	
Awareness of lack of knowledge / skills	0.87

TABLE 3.3: Factor analysis of job stressors in terms of intensity among English senior house officers

FACTOR 1: (40 % of variance) Work overload	**Loadings**
Lack of time for social life	0.85
Work interferes with domestic life	0.85
Dealing with long working hours	0.76
Work overload	0.74
Not having enough staff to adequately provide necessary services	0.58
FACTOR 2: (8 % of variance) Dealing with patients and their relatives	
Dealing with death and dying	0.83
Caring for the emotional needs of patients	0.77
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	0.70
Dealing with patients' relatives	0.69
Feeling helpless in the case of a patient who fails to improve	0.64
Dealing with " difficult " patients	0.57
Problems with nurses	0.28
FACTOR 3: (7 % of variance) Work overload, lack of support and lack of good working conditions	
Lack of respect that you deserve from the general public	0.61
Not enough time to complete all of my duties	0.60
Interruptions of work by other people's phone calls	0.59
Lack of good physical work environments	0.59
Number of beds responsible for	0.51
FACTOR 4: (5 % of variance) Insecurity about their knowledge	
Fear of making a mistake about treatment	0.76
Not knowing what type of job performance is expected	0.67
Problems dealing with other doctors	0.62
Awareness of lack of knowledge / skills	0.61
FACTOR 5: (5 % of variance) Lack of support	
Lack of an opportunity to share experiences with other personnel on the unit	0.78
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.72
Lack of teaching	0.51
FACTOR 6: (5 % of variance) Dealing with your friends and relatives as patients	
Dealing with your relatives as patients	0.89
Dealing with your friends as patients	0.86

TABLE 3.4: Factor analysis of job stressors in terms of intensity among Turkish senior house officers

FACTOR 1: (31 % of variance) Problems with other staff and lack of support	**Loadings**
Lack of an opportunity to share experiences with other personnel on the unit	0.79
Problems with senior doctors	0.69
Problems with nurses	0.69
Feeling helpless in the case of a patient who fails to improve	0.56
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.54
Lack of respect that you deserve from the general public	0.54
FACTOR 2: (8 % of variance) Dealing with your friends and relatives as patients	
Dealing with your relatives as patients	0.83
Dealing with your friends as patients	0.82
FACTOR 3: (8 % of variance) Dealing with patients	
Dealing with " difficult " patients	0.74
Dealing with death and dying	0.66
Work interferes with domestic life	0.60
Not enough time to complete all of my duties	0.31
FACTOR 4: (5 % of variance) Work overload	
Not knowing what type of job performance is expected	0.68
Number of beds responsible for	0.59
Dealing with long working hours	0.54
FACTOR 5: (5 % of variance) Lack of good working conditions	
Lack of a good physical work environments	0.85
Not having enough staff to adequately provide necessary services	0.83
FACTOR 6: (5 % of variance)	
Dealing with new technology	0.76
Dealing with patients' relatives	0.65
FACTOR 7: (4 % of variance)	
Lack of teaching	0.79
Lack of time for social life	0.60
Interruptions of work by other people's phone calls	0.59
FACTOR 8: (4 % of variance) Insecurity about their knowledge	
Awareness of lack of knowledge / skills	0.80
Fear of making a mistake about treatment	0.70

Table 3.5. The items which did not show any differences between English and Turkish SHOs in terms of frequency of stress sources

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. Mean / SD.
Dealing with " difficult " patients					**2.79 / 1,17**
Turkey-	4	56	34	6	1.43 / 0.67
England-	0	72	27	1	1.29 / 0.48
Dealing with patients' relatives					**0.65 / 1,174**
Turkey-	6	45	35	14	1.56 / 0.82
England-	3	46	33	18	1.66 / 0.81
Problems with senior doctors					**0.29 / 1,173**
Turkey-	22	63	11	4	0.96 / 0.70
England-	7	85	7	1	1.02 / 0.44
Work overload					**0.00 / 1,174**
Turkey-	6	47	25	22	1.62 / 0.90
England-	6	38	42	14	1.63 / 0.80
Lack of an opportunity to talk openly with other unit personnel about problems on the unit					**0.51 / 1,175**
Turkey-	22	48	22	8	1.14 / 0.86
England-	26	46	26	2	1.05 / 0.78
Dealing with death and dying					**2.16 / 1,172**
Turkey-	17	55	18	10	1.22 / 0.85
England-	8	52	30	9	1.40 / 0.77
Feeling helpless in the case of a patient who fails to improve					**0.60 / 1,173**
Turkey-	13	65	17	5	1.14 / 0.70
England-	10	73	17	0	1.07 / 0.52
Lack of time for social life					**0.68 / 1,176**
Turkey-	7	19	40	34	2.00 / 0.91
England-	5	30	35	30	1.89 / 0.90
Not enough time to complete all of my duties					**2.43 / 1,175**
Turkey-	10	46	31	13	1.47 / 0.85
England-	13	54	25	8	1.28 / 0.80
Lack of teaching					**1.93 / 1,174**
Turkey-	9	42	31	18	1.58 / 0.88
England-	13	45	33	9	1.40 / 0.83
Not knowing what type of job performance is expected					**1.39 / 1,176**
Turkey-	14	49	27	10	1.34 / 0.84
England-	14	60	18	8	1.19 / 0.78

Table 3.6. The items which did not show any significant differences between English and Turkish SHOs in terms of intensity of stress sources

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. Mean / SD.
Dealing with " difficult " patients					**2.86 / 1,170**
Turkey-	5	55	24	16	1.51 / 0.83
England-	3	33	55	9	1.70 / 0.68
Lack of a good physical work environments					**3.82 / 1,169**
Turkey-	11	37	31	21	1.63 / 0.94
England-	10	47	38	5	1.38 / 0.74
Dealing with patients' relatives					**3.11 / 1, 170**
Turkey-	9	47	31	13	1.48 / 0.84
England-	12	53	31	4	1.27 / 0.73
Problems with senior doctors					**0.12 / 1 ,169**
Turkey-	19	59	13	9	1.13 / 0.83
England-	17	56	20	7	1.18 / 0.80
Work overload					**3.53 / 1,170**
Turkey-	15	26	31	28	1.72 / 1.03
England-	5	21	44	30	1.99 / 0.85
Not having enough staff to adequately provide necessary services					**0.11 / 1,168**
Turkey-	3	32	46	19	1.81 / 0.77
England-	3	30	46	21	1.85 / 0.79
Lack of an opportunity to talk openly with other unit personnel about problems on the unit					**0.14 / 1,168**
Turkey-	24	55	17	4	1.01 / 0.76
England-	33	39	27	1	0.97 / 0.81
Dealing with death and dying					**0.23 / 1,165**
Turkey-	15	40	37	8	1.38 / 0.84
England-	13	40	36	11	1.45 / 0.85
Feeling helpless in the case of a patient who fails to improve					**0.56 / 1,169**
Turkey-	8	51	32	9	1.45 / 0.76
England-	8	40	41	11	1.54 / 0.79
Lack of an opportunity to share experiences with other personnel on the unit					**2.25 / 1,165**
Turkey-	19	63	17	1	1.00 / 0.65
England-	33	51	15	1	0.84 / 0.71
Dealing with new technology					**1.41 / 1, 170**
Turkey-	47	37	12	4	0.73 / 0.83
England-	27	61	11	1	0.87 / 0.64
Interruptions of work by other people's phone calls					**1.29 / 1,168**
Turkey-	12	39	36	13	1.51 / 0.88
England-	13	25	45	17	1.66 / 0.91
Lack of time for social life					**2.52 / 1,169**
Turkey-	4	27	33	36	2.01 / 0.89
England-	5	31	42	22	1.80 / 0.84

Table 3.6. The items which did not show any significant differences between English and Turkish SHOs in terms of intensity of stress sources (continued)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. Mean / SD.
Not enough time to complete all of my duties					**0.01 / 1,168**
Turkey-	11	42	28	19	1.55 / 0.92
England-	8	39	44	9	1.54 / 0.78
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients					**3.26 / 1,163**
Turkey-	28	46	25	1	1.00 / 0.77
England-	16	50	31	3	1.22 / 0.75
Lack of teaching-					**1.80 / 1,167**
Turkey-	11	47	24	18	1.49 / 0.91
England-	17	43	33	7	1.31 / 0.84
Caring for the emotional needs of patients					**2.47 / 1,167**
Turkey-	18	60	19	3	1.07 / 0.69
England-	13	54	30	3	1.24 / 0.71
Not knowing what type of job performance is expected					**0.02 / 1,167**
Turkey-	12	53	32	3	1.26 / 0.70
England-	15	49	30	6	1.27 / 0.79

Table 3.7. The items which did not show any significant differences between England and Turkey in terms of intensity when controlling frequency

ITEMS	TURKEY		ENGLAND		F's / d.f.s.
	Mean	se.	Mean	se.	
Lack of a good physical work environments	1.48	0.08	1.49	0.07	**0.02 / 1,168**
Problems with senior doctors	1.16	0.08	1.19	0.07	**0.05 / 1,165**
Dealing with your relatives as patients	0.86	0.09	0.80	0.09	**0.24 / 1,155**
Work overload	1.75	0.09	1.98	0.08	**3.72 / 1,167**
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	0.96	0.08	0.99	0.07	**0.12 / 1, 166**
Lack of respect that you deserve from the general public	1.00	0.07	0.83	0.06	**3.07 / 1,164**
Dealing with death and dying	1.42	0.09	1.42	0.08	**0.00 / 1, 162**
Feeling helpless in the case of a patient who fails to improve	1.41	0.08	1.55	0.07	**1.73 / 1,166**
Lack of an opportunity to share experiences with other personnel on the unit	0.86	0.07	0.93	0.06	**0.56 / 1, 162**
Work interferes with domestic life	1.66	0.08	1.64	0.07	**0.06 / 1, 168**
Dealing with new technology	0.82	0.07	0.80	0.06	**0.04 / 1,166**
Interruptions of work by other people's phone calls	1.66	0.08	1.55	0.07	**1.34 / 1,166**
Lack of time for social life	1.95	0.07	1.85	0.06	**1.24 / 1, 168**
Not enough time to complete all of my duties	1.49	0.07	1.60	0.06	**1.22 / 1, 166**
Dealing with your friends as patients	0.80	0.08	0.60	0.07	**3.11 / 1, 154**
Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	1.09	0.08	1.14	0.07	**0.24 / 1, 161**
Dealing with long working hours	1.84	0.08	1.94	0.07	**0.93 / 1, 165**
Number of beds responsible for	1.30	0.08	1.22	0.07	**0.45 / 1, 151**
Lack of teaching	1.43	0.08	1.36	0.07	**0.38 / 1, 164**
Caring for the emotional needs of patients	1.18	0.07	1.16	0.06	**0.04 / 1, 166**
Not knowing what type of job performance is expected	1.21	0.07	1.30	0.06	**0.77 / 1, 166**

APPENDIX 4: Analyses of Variance, Co - Variance and Factor Analysis Tables of Study 4

Table 4.1. The items which did not show any significant differences between the countries in terms of identification of frequency of stress sources

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. Mean / SD.
Inadequacies of school buildings and equipment					**3.10/1,81**
Turkey-	5	45	33	17	1.63 / 0.84
Wales-	14	51	26	9	1.30 / 0.83
Problems with colleagues					**0.11 / 1, 80**
Turkey-	54	41	5	0	0.51 / 0.60
Wales-	49	49	0	2	0.56 / 0.63
Dealing with long hours work					**2.14 / 1,81**
Turkey-	5	58	30	7	1.40 / 0.71
Wales-	7	37	40	16	1.65 / 0.84
Inadequate salary					**3.48 / 1,77**
Turkey-	11	34	13	42	1.87 / 1.10
Wales-	20	29	39	12	1.44 / 0.95
Noise and other disturbances from neighbouring classes					**3.13 / 1,81**
Turkey-	30	55	7	8	0.93 / 0.83
Wales-	56	33	7	4	0.61 / 0.82
Problems when dealing with students' parents					**3.87 / 1, 81**
Turkey-	30	55	10	5	0.90 / 0.78
Wales-	56	33	7	4	0.61 / 0.58
Concern over the status of the profession in society					**1.70 / 1,76**
Turkey-	40	23	23	14	1.11 / 1.11
Wales-	16	42	26	16	1.42 / 0.96
Dealing with large classes					**1.66 / 1,80**
Turkey-	8	36	23	33	1.82 / 1.00
Wales-	16	35	28	21	1.54 / 1.00
Problems in trying to uphold / maintain values and standards					**0.00 / 1,81**
Turkey-	7	58	35	0	1.28 / 0.60
Wales-	16	44	35	5	1.28 / 0.80
Difficulties in receiving the right amount of information about administrative decisions					**0.60 / 1, 81**
Turkey-	30	47	18	5	0.98 / 0.83
Wales-	21	53	19	7	1.12 / 0.82
Problems due to lack of training					**3.49 / 1,81**
Turkey-	22	40	30	8	1.23 / 0.89
Wales-	26	58	16	0	0.91 / 0.65
Role conflicts or role ambiguity e.g.					**0.94 / 1, 76**
Turkey-	43	38	14	5	0.81 / 0.88
Wales-	51	34	15	0	0.63 / 0.73
Dealing with poorly motivated pupils					**1.76 / 1, 80**
Turkey-	5	26	28	41	2.05 / 0.94
Wales-	2	40	35	23	1.79 / 0.83

Table 4.1. The items which did not show any significant differences between the countries in terms of identification of frequency of stress sources (continued)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. Mean / SD.
Dealing with high noise levels					**0.03 / 1, 81**
Turkey-	15	33	35	17	1.55 / 0.96
Wales-	9	49	23	19	1.51 / 0.91
Lack of time to prepare lessons					**2.08 / 1, 81**
Turkey-	28	35	27	10	1.20 / 0.97
Wales-	7	54	23	16	1.49 / 0.86
Students who do not come to class with necessary materials					**1.22 / 1,78**
Turkey-	3	50	32	15	1.60 / 0.78
Wales-	23	35	25	17	1.38 / 1.03
Lack of time for personal relaxation / leisure					**0.74 / 1,80**
Turkey-	10	37	43	10	1.53 / 0.82
Wales-	7	40	29	24	1.69 / 0.92
Difficulty in motivating students					**0.29 / 1,81**
Turkey-	12	55	23	10	1.30 / 0.82
Wales-	7	58	23	12	1.40 / 0.79
Not enough praise and encouragement for your efforts by Heads of Departments					**2.14 / 1,77**
Turkey-	40	34	21	5	0.92 / 0.91
Wales-	54	34	7	5	0.63 / 0.83
Lack of someone with whom to discuss things frankly within school					**1.45 / 1,79**
Turkey-	43	36	13	8	0.85 / 0.93
Wales-	52	36	10	2	0.62 / 0.76
Responsibility for pupils (e.g. exam success)					**0.54 / 1,75**
Turkey-	13	37	29	21	1.40 / 0.14
Wales-	14	36	36	14	1.54 / 0.13
Feeling unclear as to what the scope responsibilities of your job are					**1.84 / 1,80**
Turkey-	48	36	8	8	0.74 / 0.91
Wales-	19	67	12	2	0.98 / 0.64
Lack of professional assessment					**3.31 / 1,78**
Turkey-	34	42	19	5	0.95 / 0.87
Wales-	43	50	7	0	0.64 / 0.62
Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc.					**0.26 / 1,79**
Turkey-	24	47	26	3	1.08 / 0.78
England-	12	65	19	4	1.16 / 0.69
Threats of physical violence from a student					**2.08 / 1,78**
Turkey-	78	19	0	3	0.27 / 0.61
England-	88	12	0	0	0.12 / 0.32
Lack of opportunities to express your point of view in school decision - making					**0.72 / 1,80**
Turkey-	33	44	13	10	1.00 / 0.95
England-	38	44	16	2	0.84 / 0.79

Table 4.1. The items which did not show any significant differences between the countries in terms of identification of frequency of stress sources (continued)

ITEMS	Never	Occasionally	Frequently	Very Frequently	F's / d.f.s. Mean / SD.
Having to teach a subject for which you have not been trained					**0.60 / 1,79**
Turkey-	46	31	15	8	0.85 / 0.96
England-	43	26	17	14	1.02 / 1.09
Visits from government (or other) inspectors which include inspections of your classroom teaching					**0.00 / 1,72**
Turkey-	43	28	7	2	0.63 / 0.79
England-	45	48	7	0	0.62 / 0.62

Table 4.2. The items which did not show any significant differences between the countries in terms of identification of intensity stress sources

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. Mean / SD.
Feelings of inadequacy as a teacher					**0.10 / 1,79**
Turkey-	16	58	13	13	1.24 / 0.88
Wales-	21	39	28	12	1.30 / 0.94
Problems with colleagues					**0.67 / 1,80**
Turkey-	38	41	13	8	0.90 / 0.91
Wales-	44	40	14	2	0.74 / 0.79
Covering lessons for absent teachers					**0.96 / 1,74**
Turkey-	53	17	24	6	0.82 / 1.00
Wales-	57	26	14	2	0.62 / 0.83
Problems when dealing with students' parents					**0.05 / 1,76**
Turkey-	28	47	19	6	1.03 / 0.85
Wales-	26	45	24	5	1.07 / 0.84
Concern over the status of the profession in society					**0.88 / 1,79**
Turkey-	56	18	18	8	0.79 / 1.02
Wales-	40	30	21	9	1.00 / 1.00
Lack of time to spend with individual pupils					**1.67 / 1,79**
Turkey-	0	46	31	23	1.77 / 0.81
Wales-	2	24	45	29	2.00 / 0.80
Problems in trying to uphold / maintain values and standards					**0.11 / 1,79**
Turkey-	11	58	18	13	1.34 / 0.85
Wales-	21	37	35	7	1.28 / 0.88

Table 4.2. The items which did not show any significant differences between the countries in terms of identification of intensity stress sources (continued)

ITEMS	No stress	Little stress	Moderate stress	Great stress	F's / d.f.s. Mean / SD.
The job interfering with private life					**0.31 / 1,79**
Turkey-	18	37	24	21	1.47 / 1.03
Wales-	18	28	28	26	1.61 / 1.07
Difficulties in receiving the right amount of information about administrative decisions					**1.47 / 1,79**
Turkey-	24	50	21	5	1.08 / 0.82
Wales-	34	49	12	5	0.86 / 0.80
Role conflicts or role ambiguity e.g.					**3.17 / 1,73**
Turkey-	37	34	17	12	1.03 / 1.01
Wales-	43	50	5	2	0.68 / 0.69
Dealing with poorly motivated pupils					**0.71 / 1,80**
Turkey-	10	26	28	36	1.90 / 1.02
Wales-	7	35	37	21	1.72 / 0.88
Lack of time to prepare lessons					**1.81 / 1,79**
Turkey-	13	49	33	5	1.31 / 0.77
Wales-	10	38	40	12	1.55 / 0.83
Lack of time for personal relaxation / leisure					**0.20 / 1,79**
Turkey-	10	36	28	26	1.69 / 0.98
Wales-	14	34	31	21	1.60 / 0.99
Difficulty in motivating students					**0.01 / 1,80**
Turkey-	8	56	21	15	1.44 / 0.85
Wales-	11	49	35	5	1.42 / 0.82
Punishing pupils					**0.75 / 1,79**
Turkey-	21	29	29	21	1.50 / 1.06
Wales-	11	49	35	5	1.33 / 0.75
Dealing with mixed ability groups					**1.40 / 1,79**
Turkey-	19	42	26	13	1.34 / 0.94
Wales-	12	32	42	14	1.58 / 0.88
Lack of someone with whom to discuss things frankly within school					**1.52 / 1,78**
Turkey-	30	38	24	8	1.11 / 0.94
Wales-	40	40	16	4	0.86 / 0.86
Responsibility for pupils (e.g. exam success)					**0.24 / 1,78**
Turkey-	13	47	24	16	1.42 / 0.92
Wales-	17	30	29	14	1.52 / 0.94
Feeling unclear as to what the scope responsibilities of your job are					**1.03 / 1,76**
Turkey-	22	49	23	6	1.11 / 0.83
Wales-	30	49	19	2	0.93 / 0.77
Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc.					**0.08 / 1,78**
Turkey-	14	47	34	5	1.32 / 0.78
Wales-	19	48	21	12	1.26 / 0.91

Table 4.3. The items which didn't show any significant differences between two countries in terms of intensity when controlling frequency

ITEMS	TURKEY		WALES		
	Adjusted Mean	SE.	Adjusted Mean	SE.	F's / d.f.s.
Pupil misbehaviour	1.44	0.11	1.71	0.11	**2.95 / 1, 78**
Feelings of inadequacy as a teacher	1.37	0.14	1.19	0.13	**20.68 / 1, 78**
Problems with colleagues	0.91	0.12	0.73	0.11	**1.21 / 1, 78**
Inadequate salary	1.60	0.11	1.50	0.10	**0.41 / 1, 75**
Problems when dealing with students' parents	0.91	0.11	1.17	0.10	**2.90 / 1, 75**
Concern over the status of the profession in society	0.86	0.13	0.92	0.11	**0.12 / 1, 74**
Lack of time to spend with individual pupils	1.89	0.12	1.86	0.12	**0.05 / 1, 77**
Problems in trying to uphold / maintain values and standards	1.34	0.12	1.27	0.11	**0.22 / 1, 78**
The job interfering with private life	1.69	0.13	1.42	0.12	**2.20 / 1, 78**
Difficulties in receiving the right amount of information about administrative decisions	1.10	0.11	0.84	0.11	**2.44 / 1, 78**
Problems due to lack of training	1.26	0.12	0.96	0.11	**3.26 / 1, 77**
Role conflicts or role ambiguity e.g.	0.94	0.13	0.75	0.12	**1.15 / 1, 70**
Dealing with poorly motivated pupils	1.79	0.13	1.81	0.12	**0.01 / 1.78**
Work overload	1.76	0.12	1.94	0.12	**1.10 / 1, 77**
Too much paperwork	1.74	0.12	1.83	0.12	**0.27 / 1, 76**
Lack of time to prepare lessons	1.37	0.11	1.49	0.10	**0.63 / 1, 78**
Lack of time for personal relaxation / leisure	1.74	0.10	1.59	0.10	**1.16 / 1, 77**
Difficulty in motivating students	1.45	0.11	1.40	0.11	**0.11 / 1, 79**
Problems with students' behaviour outside the classroom	1.10	0.12	0.94	0.11	**0.84 / 1, 76**
Lack of concern about problems by senior staff	1.01	0.11	0.78	0.11	**2.00 / 1, 74**

Table 4.3. The items which didn't show any significant differences between two countries in terms of intensity when controlling frequency (continued)

ITEMS	TURKEY		WALES		F's / d.f.s.
	Adjusted Mean	SE	Adjusted Mean	SE.	
Punishing pupils	1.59	0.14	1.25	0.13	**2.92 / 1, 78**
Dealing with mixed ability groups	1.51	0.13	1.44	0.12	**0.16 / 1, 77**
Lack of someone with whom to discuss things frankly within school	1.04	0.12	0.92	0.11	**0.63 / 1 , 75**
Responsibility for pupils (e.g. exam success)	1.40	0.14	1.54	0.13	**0.54 / 1, 75**
Feeling unclear as to what the scope responsibilities of your job are	1.16	0.12	0.90	0.11	**2.34 / 1, 74**
Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc.	1.37	0.13	1.24	0.12	**0.53 / 1, 76**

APPENDIX A: The questionnaire was presented in study 1 and 2

STRESS SOURCES AND LEVELS AMONG JUNIOR HOUSE OFFICERS

I am a PhD student in the Department of Psychology, University of Bristol. In the first stage of my PhD, I am trying to determine whether there are any differences between junior house officers in the UK and Turkey in terms of stress sources and levels.

The aim of this questionnaire is to provide information regarding the above topic. I would be most grateful for your co-operation in completing the following questionnaire. Please try to complete it as accurately as possible and then return it to me in the enclosed stamped addressed envelope.

Thank you for your interest in this research.

PERSONAL DETAILS

Please answer the following open ended questions before completing the main questions.

1) Age

2) Sex

3) Marital status

4)Number of children?

5) Which unit (e.g. surgery, etc.) are you working on ?

6) How long have you been working on this unit?

7) Which unit did you work on before the present one?

PS: In the second study, the question which was ' how long have you been working as a JHO' was also added to this section.

We would like to know how often you have experienced the following certain situations on your present unit. Please underline the answers which you think are most appropriate for you.

1) Dealing with 'difficult' patients	Never	Occasionally	Frequently	Very frequently
2) Awareness of lack of knowledge / skills	Never	Occasionally	Frequently	Very frequently
3) Lack of a good physical work environment	Never	Occasionally	Frequently	Very frequently
4) Dealing with patients' relatives	Never	Occasionally	Frequently	Very frequently
5) Problems dealing with senior doctors	Never	Occasionally	Frequently	Very frequently
6) Dealings with your relatives as patients	Never	Occasionally	Frequently	Very frequently
7) Work overload	Never	Occasionally	Frequently	Very frequently
8) Not having enough staff to adequately provide necessary services	Never	Occasionally	Frequently	Very frequently
9) Lack of an opportunity to talk openly with other unit personnel about problems on the unit	Never	Occasionally	Frequently	Very frequently
10) Lack of respect that you deserve from the general public	Never	Occasionally	Frequently	Very frequently

11) Dealing with death and dying	Never	Occasionally	Frequently	Very frequently
12) Feeling helpless in the case of a patient who fails to improve	Never	Occasionally	Frequently	Very frequently
13) Problems with nurses	Never	Occasionally	Frequently	Very frequently
14) Lack of an opportunity to share experiences with other personnel on the unit	Never	Occasionally	Frequently	Very frequently
15) Work interference with domestic life	Never	Occasionally	Frequently	Very frequently
16) Dealing with new technology	Never	Occasionally	Frequently	Very frequently
17) Criticism by a supervisor	Never	Occasionally	Frequently	Very frequently
18) Lack of career advice	Never	Occasionally	Frequently	Very frequently
19) Interruptions of work by other people's phone calls	Never	Occasionally	Frequently	Very frequently
20) Lack of time for social life	Never	Occasionally	Frequently	Very frequently
21) Fear of making a mistake about treatment	Never	Occasionally	Frequently	Very frequently

22) Not enough time to complete all of my duties	Never	Occasionally	Frequently	Very frequently
23) Dealing with your friends as patients	Never	Occasionally	Frequently	Very frequently
24) Lack of support from senior staff	Never	Occasionally	Frequently	Very frequently
25) Being uncertain about what to tell a patient or family about the patients' condition and / or needs of patients	Never	Occasionally	Frequently	Very frequently
26) Dealing with long working hours	Never	Occasionally	Frequently	Very frequently
27) Number of beds responsible for	Never	Occasionally	Frequently	Very frequently
28) Lack of teaching	Never	Occasionally	Frequently	Very frequently
29) Problems with other junior house officers	Never	Occasionally	Frequently	Very frequently
30) Caring for the emotional needs of patients	Never	Occasionally	Frequently	Very frequently
31) Not knowing what type of job performance is expected	Never	Occasionally	Frequently	Very frequently

We would like to know how stressful the following situations are in your present unit. Please underline the answers which you think are most appropriate for you.

1) Dealing with 'difficult' patients	No stress	Little stress	Moderate stress	Great stress
2) Awareness of lack of knowledge / skills	No stress	Little stress	Moderate stress	Great stress
3) Lack of a good physical work environment	No stress	Little stress	Moderate stress	Great stress
4) Dealing with patients' relatives	No stress	Little stress	Moderate stress	Great stress
5) Problems dealing with senior doctors	No stress	Little stress	Moderate stress	Great stress
6) Dealings with your relatives as patients	No stress	Little stress	Moderate stress	Great stress
7) Work overload	No stress	Little stress	Moderate stress	Great stress
8) Not having enough staff to adequately provide necessary services	No stress	Little stress	Moderate stress	Great stress
9) Lack of an opportunity to talk openly with other unit personnel about problems on the unit	No stress	Little stress	Moderate stress	Great stress

10) Lack of respect that you deserve from the general public — No stress | Little stress | Moderate stress | Great stress

11) Dealing with death and dying — No stress | Little stress | Moderate stress | Great stress

12) Feeling helpless in the case of a patient who fails to improve — No stress | Little stress | Moderate stress | Great stress

13) Problems with nurses — No stress | Little stress | Moderate stress | Great stress

14) Lack of an opportunity to share experiences with other personnel on the unit — No stress | Little stress | Moderate stress | Great stress

15) Work interference with domestic life — No stress | Little stress | Moderate stress | Great stress

16) Dealing with new technology — No stress | Little stress | Moderate stress | Great stress

17) Criticism by a supervisor — No stress | Little stress | Moderate stress | Great stress

18) Lack of career advice — No stress | Little stress | Moderate stress | Great stress

19) Interruptions of work by other people's phone calls — No stress | Little stress | Moderate stress | Great stress

20) Lack of time for social life — No stress | Little stress | Moderate stress | Great stress

21) Fear of making a mistake about treatment	No stress	Little stress	Moderate stress	Great stress
22) Not enough time to complete all of my duties	No stress	Little stress	Moderate stress	Great stress
23) Dealing with your friends as patients	No stress	Little stress	Moderate stress	Great stress
24) Lack of support from senior staff	No stress	Little stress	Moderate stress	Great stress
25) Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	No stress	Little stress	Moderate stress	Great stress
26) Dealing with long working hours	No stress	Little stress	Moderate stress	Great stress
27) Number of beds responsible for	No stress	Little stress	Moderate stress	Great stress
28) Lack of teaching	No stress	Little stress	Moderate stress	Great stress
29) Problems with other junior house officers	No stress	Little stress	Moderate stress	Great stress
30) Caring for the emotional needs of patients	No stress	Little stress	Moderate stress	Great stress
31) Not knowing what type of job performance is expected	No stress	Little stress	Moderate stress	Great stress

APPENDIX B :The questionnaire was presented in study 3

STRESS SOURCES AND LEVELS AMONG SENIOR HOUSE OFFICERS

I am a PhD student in the Department of Psychology, University of Bristol. In the first stage of my PhD, I am trying to determine whether there are any differences between senior house officers in the UK and Turkey in terms of stress sources and levels.

The aim of this questionnaire is to provide information regarding the above topic. I would be most grateful for your co-operation in completing the following questionnaire. Please try to complete it as accurately as possible and then return it to me in the enclosed stamped addressed envelope.

Thank you for your interest in this research.

PERSONAL DETAILS

Please answer the following open ended questions before completing the main questions.

1) Age

2) Sex

3) Marital status

4)Number of children?

5) Which unit (e.g. surgery, etc.) are you working on ?

6) How long have you been working on as a senior house officers?

7) At which hospital are you working?

We would like to know how often you have experienced the following certain situations. Please underline the answers which you think are most appropriate for you.

1) Dealing with 'difficult ' patients	Never	Occasionally	Frequently	Very frequently
2) Awareness of lack of knowledge / skills	Never	Occasionally	Frequently	Very frequently
3) Lack of a good physical work environment	Never	Occasionally	Frequently	Very frequently
4) Dealing with patients ' relatives	Never	Occasionally	Frequently	Very frequently
5) Problems dealing with senior doctors	Never	Occasionally	Frequently	Very frequently
6) Dealings with your relatives as patients	Never	Occasionally	Frequently	Very frequently
7) Work overload	Never	Occasionally	Frequently	Very frequently
8) Not having enough staff to adequately provide necessary services	Never	Occasionally	Frequently	Very frequently
9) Lack of an opportunity to talk openly with other unit personnel about problems on the unit	Never	Occasionally	Frequently	Very frequently
10)Lack of respect that you deserve from the general public	Never	Occasionally	Frequently	Very frequently

11) Dealing with death and dying	Never	Occasionally	Frequently	Very frequently
12) Feeling helpless in the case of a patient who fails to improve	Never	Occasionally	Frequently	Very frequently
13) Problems with nurses	Never	Occasionally	Frequently	Very frequently
14) Lack of an opportunity to share experiences with other personnel on the unit	Never	Occasionally	Frequently	Very frequently
15) Work interference with domestic life	Never	Occasionally	Frequently	Very frequently
16) Dealing with new technology	Never	Occasionally	Frequently	Very frequently
17) Interruptions of work by other people's phone calls	Never	Occasionally	Frequently	Very frequently
18) Lack of time for social life	Never	Occasionally	Frequently	Very frequently
19) Fear of making a mistake about treatment	Never	Occasionally	Frequently	Very frequently
20) Not enough time to complete all of my duties	Never	Occasionally	Frequently	Very frequently
21) Dealing with your friends as patients	Never	Occasionally	Frequently	Very frequently

22) Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	Never	Occasionally	Frequently	Very frequently
23) Dealing with long working hours	Never	Occasionally	Frequently	Very frequently
24) Number of beds responsibility for	Never	Occasionally	Frequently	Very frequently
25) Lack of teaching	Never	Occasionally	Frequently	Very frequently
26) Caring for the emotional needs of patients	Never	Occasionally	Frequently	Very frequently
27) Not knowing what type of job performance is expected	Never	Occasionally	Frequently	Very frequently

We would like to know how stressful the following situations are for you. Please underline the answers which you think are most appropriate.

1) Dealing with 'difficult' patients	No stress	Little stress	Moderate stress	Great stress
2) Awareness of lack of knowledge / skills	No stress	Little stress	Moderate stress	Great stress
3) Lack of a good physical work environment	No stress	Little stress	Moderate stress	Great stress
4) Dealing with patients' relatives	No stress	Little stress	Moderate stress	Great stress
5) Problems dealing with senior doctors	No stress	Little stress	Moderate stress	Great stress
6) Dealings with your relatives as patients	No stress	Little stress	Moderate stress	Great stress
7) Work overload	No stress	Little stress	Moderate stress	Great stress
8) Not having enough staff to adequately provide necessary services	No stress	Little stress	Moderate stress	Great stress
9) Lack of an opportunity to talk openly with other unit personnel about problems on the unit	No stress	Little stress	Moderate stress	Great stress

10)Lack of respect that you deserve from the general public — No stress | Little stress | Moderate stress | Great stress

11) Dealing with death and dying — No stress | Little stress | Moderate stress | Great stress

12) Feeling helpless in the case of a patient who fails to improve — No stress | Little stress | Moderate stress | Great stress

13) Problems with nurses — No stress | Little stress | Moderate stress | Great stress

14) Lack of an opportunity to share experiences with other personnel on the unit — No stress | Little stress | Moderate stress | Great stress

15) Work interference with domestic life — No stress | Little stress | Moderate stress | Great stress

16) Dealing with new technology — No stress | Little stress | Moderate stress | Great stress

17) Interruptions of work by other people's phone calls — No stress | Little stress | Moderate stress | Great stress

18) Lack of time for social life — No stress | Little stress | Moderate stress | Great stress

19) Fear of making a mistake about treatment — No stress | Little stress | Moderate stress | Great stress

20) Not enough time to complete all of my duties	No stress	Little stress	Moderate stress	Great stress
21) Dealing with your friends as patients	No stress	Little stress	Moderate stress	Great stress
22) Being uncertain about what to tell a patient or family about the patient's condition and / or needs of patients	No stress	Little stress	Moderate stress	Great stress
23) Dealing with long working hours	No stress	Little stress	Moderate stress	Great stress
24) Number of beds responsible for	No stress	Little stress	Moderate stress	Great stress
25) Lack of teaching	No stress	Little stress	Moderate stress	Great stress
26) Caring for the emotional needs of patients	No stress	Little stress	Moderate stress	Great stress
27) Not knowing what type of job performance is expected	No stress	Little stress	Moderate stress	Great stress

APPENDIX C : The questionnaire was presented in study 4

STRESS SOURCES AND LEVELS AMONG NEWLY GRADUATED TEACHERS

I am a PhD student in the Department of Psychology, University of Bristol. At the moment , I am trying to determine whether there are any differences between newly graduated teachers in the UK and Turkey in terms of stress sources and levels.

The aim of this questionnaire is to provide information regarding the above topic. I would be most grateful for your co-operation in completing the following questionnaire. Please try to complete it as accurately as possible and then return it to me in the enclosed stamped addressed envelope.

Thank you for your interest in this research.

PERSONAL DETAILS

Please answer the following open ended questions before completing the main questions.

1. Age

2. Sex

3. Marital status

4. Number of children?

5. How long have you been working as a teacher?

6. Are you a primary or secondary school teacher?

If you are a secondary teacher:

7 . Which subject are you teaching?

8. At which school are you working?

We would like to know how often you have experienced the following certain situations. Please underline the answers which you think are most appropriate for you.

1. Pupil misbehaviour	Never	Occasionally	Frequently	Very frequently
2. Inadequacies of school buildings and equipment	Never	Occasionally	Frequently	Very frequently
3. Feelings of inadequacy as a teacher	Never	Occasionally	Frequently	Very frequently
4. Problems with colleagues	Never	Occasionally	Frequently	Very frequently
5. Dealing with long hours work	Never	Occasionally	Frequently	Very frequently
6. Inadequate salary	Never	Occasionally	Frequently	Very frequently
7. Noise and other disturbances from neighbouring classes	Never	Occasionally	Frequently	Very frequently
8. Covering lessons for absent teachers	Never	Occasionally	Frequently	Very frequently
9. Problems when dealing with students' parents	Never	Occasionally	Frequently	Very frequently
10. Concern over the status of the profession in society	Never	Occasionally	Frequently	Very frequently
11. Lack of time to spend with individual pupils	Never	Occasionally	Frequently	Very frequently
12. Dealing with large classes	Never	Occasionally	Frequently	Very frequently

13. Time pressures	Never	Occasionally	Frequently	Very frequently
14. Lack of opportunities for professional improvement	Never	Occasionally	Frequently	Very frequently
15. Problems in trying to uphold / maintain values and standards	Never	Occasionally	Frequently	Very frequently
16. The job interfering with private life	Never	Occasionally	Frequently	Very frequently
17. Difficulties in receiving the right amount of information about administrative decisions	Never	Occasionally	Frequently	Very frequently
18. Problems due to lack of training	Never	Occasionally	Frequently	Very frequently
19. Role conflicts or role ambiguity e.g.	Never	Occasionally	Frequently	Very frequently
20. Dealing with poorly motivated pupils	Never	Occasionally	Frequently	Very frequently
21. Getting all the paperwork done in time	Never	Occasionally	Frequently	Very frequently
22. Work overload	Never	Occasionally	Frequently	Very frequently
23. Too much paperwork	Never	Occasionally	Frequently	Very frequently
24. Dealing with high noise levels	Never	Occasionally	Frequently	Very frequently

25. Lack of time to prepare lessons	Never	Occasionally	Frequently	Very frequently
26. Students who do not come to class with necessary materials	Never	Occasionally	Frequently	Very frequently
27. Lack of time for personal relaxation / leisure	Never	Occasionally	Frequently	Very frequently
28. Difficulty in motivating students	Never	Occasionally	Frequently	Very frequently
29. Lack of co - operation on the part of parents	Never	Occasionally	Frequently	Very frequently
30. Problems with students' behaviour outside the classroom	Never	Occasionally	Frequently	Very frequently
31. Lack of concern about problems by senior staff	Never	Occasionally	Frequently	Very frequently
32. Not enough praise and encouragement for your efforts by Heads of Departments	Never	Occasionally	Frequently	Very frequently
33. Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	Never	Occasionally	Frequently	Very frequently
34. Punishing pupils	Never	Occasionally	Frequently	Very frequently
35. Dealing with mixed ability groups	Never	Occasionally	Frequently	Very frequently

36. Lack of someone with whom to discuss things frankly within the school	Never	Occasionally	Frequently	Very frequently
37. Responsibility for pupils (e.g. exam success)	Never	Occasionally	Frequently	Very frequently
38. Feeling unclear as to what the scope responsibilities of your job are	Never	Occasionally	Frequently	Very frequently
39. Lack of professional assessment	Never	Occasionally	Frequently	Very frequently
40. Difficulty in satisfying the conflicting demands of your colleagues, parents of your pupils, pupils etc.	Never	Occasionally	Frequently	Very frequently
41. Threats of physical violence from a student	Never	Occasionally	Frequently	Very frequently
42. Lack of opportunities to express your point of view in school decision - making	Never	Occasionally	Frequently	Very frequently
43. Having to teach a subject for which you have not been trained	Never	Occasionally	Frequently	Very frequently
44. Visits from government (or other) inspectors which include inspections of your classroom teaching	Never	Occasionally	Frequently	Very frequently

We would like to know how stressful the following situation for you. Could you please circle to appropriate answer for each item.

1. Pupil misbehaviour	No stress	Little stress	Moderate stress	Great stress
2. Inadequacies of school buildings and equipment	No stress	Little stress	Moderate stress	Great stress
3. Feelings of inadequacy as a teacher	No stress	Little stress	Moderate stress	Great stress
4. Problems with colleagues	No stress	Little stress	Moderate stress	Great stress
5. Dealing with long hours work	No stress	Little stress	Moderate stress	Great stress
6. Inadequate salary	No stress	Little stress	Moderate stress	Great stress
7. Noise and other disturbances from neighbouring classes	No stress	Little stress	Moderate stress	Great stress
8. Covering lessons for absent teachers	No stress	Little stress	Moderate stress	Great stress
9. Problems when dealing with students' parents	No stress	Little stress	Moderate stress	Great stress
10. Concern over the status of the profession in society	No stress	Little stress	Moderate stress	Great stress
11. Lack of time to spend with individual pupils	No stress	Little stress	Moderate stress	Great stress
12. Dealing with large classes	No stress	Little stress	Moderate stress	Great stress

13. Time pressures	No stress	Little stress	Moderate stress	Great stress
14. Lack of opportunities for professional improvement	No stress	Little stress	Moderate stress	Great stress
15. Problems in trying to uphold / maintain values and standards	No stress	Little stress	Moderate stress	Great stress
16. The job interfering with private life	No stress	Little stress	Moderate stress	Great stress
17. Difficulties in receiving the right amount of information about administrative decisions	No stress	Little stress	Moderate stress	Great stress
18. Problems due to lack of training	No stress	Little stress	Moderate stress	Great stress
19. Role conflicts or role ambiguity e.g.	No stress	Little stress	Moderate stress	Great stress
20. Dealing with poorly motivated pupils	No stress	Little stress	Moderate stress	Great stress
21. Getting all the paperwork done in time	No stress	Little stress	Moderate stress	Great stress
22. Work overload	No stress	Little stress	Moderate stress	Great stress
23. Too much paperwork	No stress	Little stress	Moderate stress	Great stress
24. Dealing with high noise levels	No stress	Little stress	Moderate stress	Great stress

25. Lack of time to prepare lessons	No stress	Little stress	Moderate stress	Great stress
26. Students who do not come to class with necessary materials	No stress	Little stress	Moderate stress	Great stress
27. Lack of time for personal relaxation / leisure	No stress	Little stress	Moderate stress	Great stress
28. Difficulty in motivating students	No stress	Little stress	Moderate stress	Great stress
29. Lack of co - operation on the part of parents	No stress	Little stress	Moderate stress	Great stress
30. Problems with students' behaviour outside the classroom	No stress	Little stress	Moderate stress	Great stres
31. Lack of concern about problems by senior staff	No stress	Little stress	Moderate stress	Great stress
32. Not enough praise and encouragement for your efforts by Heads of Departments	No stress	Little stress	Moderate stress	Great stress
33. Lack of real understanding by Heads of Department of the problem and aspirations of the teachers concerned	No stress	Little stress	Moderate stress	Great stress
34. Punishing pupils	No stress	Little stress	Moderate stress	Great stress

35. Dealing with mixed ability groups	No stress	Little stress	Moderate stress	Great stress
36. Lack of someone with whom to discuss things frankly within the school	No stress	Little stress	Moderate stress	Great stress
37. Responsibility for pupils (e.g. exam success)	No stress	Little stress	Moderate stress	Great stress
38. Feeling unclear as to what the scope responsibilities of your job are	No stress	Little stress	Moderate stress	Great stress
39. Lack of professional assessment	No stress	Little stress	Moderate stress	Great stress
40. Difficulty in satisfying of conflicting demands of your colleagues, parents of your pupils, pupils etc.	No stress	Little stress	Moderate stress	Great stress
41. Threats of physical violence from a student	No stress	Little stress	Moderate stress	Great stress
42. Lack of opportunities to express your point of view in school decision - making	No stress	Little stress	Moderate stress	Great stress
43. Having to teach a subject or which you have not been trained	No stress	Little stress	Moderate stress	Great stress
44. Visits from government (or other) inspectors which include inspections of your classroom teaching	No stress	Little stress	Moderate stress	Great stress

APPENDIX D :The questionnaire was presented in study 5

PERCEIVED SUBJECTIVE STRESS (PSS)

The questions in this scale ask you **about your feelings and thoughts during the last month.** In each case, please indicate by circling the number how often you felt or thought in a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

3. In the last month, how often have you felt nervous and ' stressed'?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

4. In the last month, how often have you dealt successfully with day to day problems and annoyances?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

6. In the last month, how often have you felt confident about your ability to handle your personal problems?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

7. In the last month, how often have you felt that things were going your way?
0= never 1= almost never 2= sometimes 3= fairly often 4= very often

8. In the last month, how often have you felt that you could not cope with all the things that you had to do?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

9. In the last month, how often have you been able to control irritations in your life?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

10. In the last month, how often have you felt that you were on top of things?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

11. In the last month, how often have you been angered because of things that were outside your control?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

13. In the last month, how often have you been able to control the way you spend your time?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

0= never 1= almost never 2= sometimes 3= fairly often 4= very often

APPENDIX E : The questionnaire was presented in study 5

INTERPERSONAL SUPPORT EVALUATION LIST (ISEL)

This scale is made up of a list of statements each of which may or may not be true about you. For each statement circle ' definitely true ' if you are sure it is true about you and ' probably true ' if you think it is true but are not absolutely certain. Similarly, you should tick 'definitely false ' if you are sure the statement is false and ' probably false ' if you think it is false but are not absolutely certain.

1. There are several people I trust to help solve my problem.

4= definitely true 1= definitely false
3= probably true 2= probably false

2. If I need help mending something, (e.g. an appliance, car, clothes, furniture), there is someone who would help me.

4= definitely true 1= definitely false
3= probably true 2= probably false

3. Most of my friends are more interesting than I am.

4= definitely true 1= definitely false
3= probably true 2= probably false

4. There is someone who takes pride in my accomplishments.

4= definitely true 1= definitely false
3= probably true 2= probably false

5. When I feel lonely, there are several people I can talk to.

4= definitely true 1= definitely false
3= probably true 2= probably false

6. There is no one that I feel comfortable talking to about intimate personal problems.

4= definitely true 1= definitely false
3= probably true 2= probably false

7. I often meet or talk with family or friends.

4= definitely true 1= definitely false
3= probably true 2= probably false

8. Most people I know think highly of me.

4= definitely true 1= definitely false
3= probably true 2= probably false

9. If I need a lift very early in the morning (e.g. to the tube station, train station, or airport), I would have a hard time finding anyone to take me.

4= definitely true 1= definitely false
3= probably true 2= probably false

10. I feel like I'm not always included by my circle of friends.

4= definitely true 1= definitely false
3= probably true 2= probably false

11. There is really no one who can give me an objective view of how I'm handling my problems.

4= definitely true 1= definitely false
3= probably true 2= probably false

12. There are several different people I enjoy spending time with.

4= definitely true 1= definitely false
3= probably true 2= probably false

13. I think that my friends feel that I'm not very good at helping them solve their problems.

4= definitely true	1= definitely false
3= probably true	2= probably false

14. If I were ill and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone.

4= definitely true	1= definitely false
3= probably true	2= probably false

15. If I wanted to go on a trip or outing for a day (e.g. to the seaside or countryside), I would have a hard time finding someone to go with me.

4= definitely true	1= definitely false
3= probably true	2= probably false

16. If I needed a place to stay for a week because of an emergency (e.g. water or electricity not working in my flat or house), I could easily find someone who would put me up.

4= definitely true	1= definitely false
3= probably true	2= probably false

17. I feel that there is no one I can share my most private worries and tears with.

4= definitely true	1= definitely false
3= probably true	2= probably false

18. If I were ill, I could easily find someone to help me with my daily chores.

4= definitely true	1= definitely false
3= probably true	2= probably false

19. There is someone I can turn to for advice about handling problems with my family.

4= definitely true	1= definitely false
3= probably true	2= probably false

20. I'm as good at doing things as most other people are.

4= definitely true	1= definitely false
3= probably true	2= probably false

21. If I decide one afternoon that I would like to go out (e.g. to the cinema) that evening, I could find someone to go with me.

4= definitely true	1= definitely false
3= probably true	2= probably false

22. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.

4= definitely true	1= definitely false
3= probably true	2= probably false

23. If I needed an emergency loan £ 100, there is someone (friend, relative or acquaintance) I could get it from.

4= definitely true	1= definitely false
3= probably true	2= probably false

24. In general, people do not have much confidence in me.

4= definitely true	1= definitely false
3= probably true	2= probably false

25. Most people I know do not enjoy the same things that I do.

4= definitely true	1= definitely false
3= probably true	2= probably false

26. There is someone I could turn to for advice about making career plans or about changing my job.

4= definitely true	1= definitely false
3= probably true	2= probably false

27. I don't get invited to do things with others.

4= definitely true	1= definitely false
3= probably true	2= probably false

28. Most of my friends are more successful at making changes in their lives than I am.

4= definitely true	1= definitely false
3= probably true	2= probably false

29. If I had to go away from home for a few weeks, there is someone I know who would look after my house or flat (the plants, pets, garden etc.).

4= definitely true	1= definitely false
3= probably true	2= probably false

30. There is really no one I can trust to give me good financial advice.

4= definitely true	1= definitely false
3= probably true	2= probably false

31. If I wanted to have lunch with someone, I could easily find someone to join me.

4= definitely true	1= definitely false
3= probably true	2= probably false

32. I am more satisfied with my life than most people are with theirs.

4= definitely true	1= definitely false
3= probably true	2= probably false

33. If I was stranded 10 miles from home, there is someone I could call who would come and collect me.

4= definitely true	1= definitely false
3= probably true	2= probably false

34. No one I know would throw a birthday party for me.

4= definitely true	1= definitely false
3= probably true	2= probably false

35. It would be difficult to find someone who would lend me their car for a few hours (If you don't drive, assume for the purposes of this question that you have someone to drive you, but no car).

4= definitely true	1= definitely false
3= probably true	2= probably false

36. If a family crises arose, it would be difficult to find someone who could give me good advice about how to handle it.

4= definitely true	1= definitely false
3= probably true	2= probably false

37. I am closer to my friends than most people are to theirs.

4= definitely true	1= definitely false
3= probably true	2= probably false

38. There is at least one person I know whose advice I really trust.

4= definitely true	1= definitely false
3= probably true	2= probably false

39. If I needed some help in moving to a new house or flat, I would have a hard time finding someone to help me.

4= definitely true	1= definitely false
3= probably true	2= probably false

40. I have a hard time keeping pace with my friends.

4= definitely true	1= definitely false
3= probably true	2= probably false

APPENDIX F : The questionnaire was presented in study 5

HASSLES

DIRECTIONS: Hassles are irritants that can range from minor annoyances to fairly major pressures, problems, or difficulties. They can occur few or many times.

Listed on the following pages are number of ways in which a person can feel hassled. First, circle the hassles that have happened to you **in the past month.** Then look at the numbers to the right of the items you have circled. Indicate by circling a 1, 2, or 3 how SEVERE each of the circled hassles has been for you in the past month. **If a hassle did not occur in the last month do not NOT circle it.**

	SEVERITY 1= Somewhat severe 2= Moderately severe 3= Extremely severe		
1. Misplacing or losing things.	1	2	3
2. Troublesome neighbours.	1	2	3
3. Social obligations.	1	2	3
4. Inconsiderate smokers.	1	2	3
5. Troubling thoughts about your future.	1	2	3
6. Thoughts about death.	1	2	3
7. Health of a family member.	1	2	3
8. Not enough money for clothing.	1	2	3
9. Not enough money for housing.	1	2	3
10. Concerns about owing money.	1	2	3
11. Concerns about getting credit.	1	2	3
12. Concerns about money for emergencies.	1	2	3
13. Someone owes you money.	1	2	3
14. Financial responsibility for someone who doesn't live with you.	1	2	3
15. Cutting down on electricity, water, etc.	1	2	3
16. Smoking too much.	1	2	3

	SEVERITY 1= Somewhat severe 2= Moderately severe 3= Extremely severe		
17. Use of alcohol.	1	2	3
18. Personal use of drugs.	1	2	3
19. Too many responsibilities.	1	2	3
20. Decisions about having children.	1	2	3
21. Non - family members living in your home.	1	2	3
22. Care for pet.	1	2	3
23. Planning meals.	1	2	3
24. Concerned about the meaning of life.	1	2	3
25. Trouble relaxing.	1	2	3
26. Trouble making decisions.	1	2	3
27. Problems getting along with fellow workers.	1	2	3
28. Customers or clients give you a hard time.	1	2	3
29. Home maintenance (inside).	1	2	3
30. Concerns about job security.	1	2	3
31. Concerns about retirement.	1	2	3
32. Laid - off or out of work.	1	2	3
33. Don't like current work or duties.	1	2	3
34. Don't like fellow workers.	1	2	3
35. Not enough money for basic necessities.	1	2	3
36. Not enough money for food.	1	2	3
37. Too many interruptions.	1	2	3
38. Unexpected company.	1	2	3
39. Too much time on hands.	1	2	3
40. Having to wait.	1	2	3
41. Concerns about accidents.	1	2	3
42. Being lonely.	1	2	3
43. Not enough money for health care.	1	2	3
44. Fear of confrontation.	1	2	3
45. Financial security.	1	2	3
46. Silly practical mistakes.	1	2	3
47. Inability to express yourself.	1	2	3
48. Physical illness.	1	2	3
49. Side effects of medication.	1	2	3

		SEVERITY 1= Somewhat severe 2= Moderately severe 3= Extremely severe		
50.	Concerns about medical treatment.	1	2	3
51.	Physical appearance.	1	2	3
52.	Fear of rejection.	1	2	3
53.	Difficulties with getting pregnant.	1	2	3
54.	Sexual problems that result from physical problems.	1	2	3
55.	Sexual problems other than those resulting from physical problems.	1	2	3
56.	Concerns about health in general.	1	2	3
57.	Not seeing enough people.	1	2	3
58.	Friends or relatives too far away.	1	2	3
59.	Preparing meals.	1	2	3
60.	Wasting time.	1	2	3
61.	Auto maintenance.	1	2	3
62.	Filling out forms.	1	2	3
63.	Neighbourhood deterioration.	1	2	3
64.	Financing children's education.	1	2	3
65.	Problems with employees.	1	2	3
66.	Problems on job due to being a woman or man.	1	2	3
67.	Declining physical abilities.	1	2	3
68.	Being exploited.	1	2	3
69.	Concerns about bodily functions.	1	2	3
70.	Rising prices of common goods.	1	2	3
71.	Not getting enough rest.	1	2	3
72.	Not getting enough sleep.	1	2	3
73.	Problems with aging parents.	1	2	3
74.	Problems with your children.	1	2	3
75.	Problems with persons younger than yourself.	1	2	3
76.	Problems with your lover.	1	2	3
77.	Difficulties seeing or hearing.	1	2	3
78.	Overloaded with family responsibilities.	1	2	3
79.	Too many things to do.	1	2	3
80.	Unchallenging work.	1	2	3

	SEVERITY 1= Somewhat severe 2= Moderately severe 3= Extremely severe		
81. Concerns about meeting high standards.	1	2	3
82. Financial dealings with friends or acquaintances.	1	2	3
83. Job dissatisfactions.	1	2	3
84. Worries about decisions to change jobs.	1	2	3
85. Trouble with reading, writing or spelling abilities.	1	2	3
86. Too many meetings.	1	2	3
87. Problems with divorce or separation.	1	2	3
88. Trouble with arithmetic skills.	1	2	3
89. Gossip.	1	2	3
90. Legal problems.	1	2	3
91. Concerns about weight.	1	2	3
92. Not enough time to do the things you need to do.	1	2	3
93. Television.	1	2	3
94. Not enough personal energery.	1	2	3
95. Concerns about inner conflicts.	1	2	3
96. Feel conflicted over what to do.	1	2	3
97. Regrets over past decisions.	1	2	3
98. Menstrual (period) problems.	1	2	3
99. The weather.	1	2	3
100. Nightmares.	1	2	3
101. Concerns about getting ahead.	1	2	3
102. Hassles from boss or supervisor.	1	2	3
103. Difficulties with friends.	1	2	3
104. Not enough time for family.	1	2	3
105. Transportation problems.	1	2	3
106. Not enough money for transportation.	1	2	3
107. Not enough money for entertainment and recreation.	1	2	3
108. Shopping.	1	2	3
109. Prejudice and discrimination from others.	1	2	3
110. Property, investments or taxes.	1	2	3

	SEVERITY		
	1= Somewhat severe		
	2= Moderately severe		
	3= Extremely severe		
111. Not enough time for entertainment and recreation.	1	2	3
112. Yardwork or outside home maintenance.	1	2	3
113. Concerns about news events.	1	2	3
114. Noise.	1	2	3
115. Crime.	1	2	3
116. Traffic.	1	2	3
117. Pollution.	1	2	3

Have we missed any of your hassles? If so, write them in below:

118. _____ 1 2 3

One more thing: Has there been a change in your life that has affected how you answered this scale? If so, tell us what it was.

_____

APPENDIX G :The questionnaire was presented in study 5

PROFILE FATIGUE RELATED SYNDROME (PFRS)

Below is a list of problems which may or may not apply to you. For each problem, please say to what extent you have experienced this during the **PAST WEEK (including today).** Do not think for too long before answering but give your immediate reaction. Please be careful not to miss out any of the items. Remember, we are talking about the past week and your illness in general. Give your answer by circling any number from 1 to 7 to the right of the item, where:

1 = not at all
4 = moderately
7 = extremely

1. Feelings physically tired even when taking things easily.	1	2	3	4	5	6	7
2. Your limbs feeling heavy.	1	2	3	4	5	6	7
3. Getting easily upset by things.	1	2	3	4	5	6	7
4. Difficulty concentrating.	1	2	3	4	5	6	7
5. Stomach pain.	1	2	3	4	5	6	7
6. Not having the physical energy to do anything.	1	2	3	4	5	6	7
7. Difficulty remembering things.	1	2	3	4	5	6	7
8. Losing your temper easily.	1	2	3	4	5	6	7
9. Difficulty remembering things.	1	2	3	4	5	6	7
10. Muscles feel weak even after resting.	1	2	3	4	5	6	7
11. Feeling depressed.	1	2	3	4	5	6	7
12. Muscles tender to the touch.	1	2	3	4	5	6	7
13. Slowness of thought.	1	2	3	4	5	6	7
14. Tremor or twitching.	1	2	3	4	5	6	7
15. The slightest exercise making you physically tired.	1	2	3	4	5	6	7
16. Being irritable.	1	2	3	4	5	6	7
17. Difficulty reasoning things out.	1	2	3	4	5	6	7
18. Burning, tingling or crawling sensations.	1	2	3	4	5	6	7
19. Numbness in some part of your body.	1	2	3	4	5	6	7
20. Back pain.	1	2	3	4	5	6	7
21. Feeling anxious.	1	2	3	4	5	6	7
22. A feeling of confusion ('mental fog').	1	2	3	4	5	6	7

	1 = not at all 4 = moderately 7 = extremely
23. Bouts of sweating (day or night).	1 2 3 4 5 6 7
24. Feeling physically drained.	1 2 3 4 5 6 7
25. Dizziness or giddiness.	1 2 3 4 5 6 7
26. Absent - mindedness.	1 2 3 4 5 6 7
27. Worrying about things that do not matter.	1 2 3 4 5 6 7
28. Feeling physically tired even after a good night's sleep.	1 2 3 4 5 6 7
29. Difficulty understanding e.g. what someone was saying to you.	1 2 3 4 5 6 7
30. Feeling pessimistic about the future.	1 2 3 4 5 6 7
31. Cold hands or feet.	1 2 3 4 5 6 7
32. Having to stop doing something, that was easy in itself, because it made you tired.	1 2 3 4 5 6 7
33. Muscles feeling weak after slight exercise.	1 2 3 4 5 6 7
34. Difficulty following things e.g. a simple plot on TV.	1 2 3 4 5 6 7
35. Hot or cold spells.	1 2 3 4 5 6 7
36. Feeling tense.	1 2 3 4 5 6 7
37. Feeling faint.	1 2 3 4 5 6 7
38. Difficulty finding the right word.	1 2 3 4 5 6 7
39. Feeling chilled or shivery.	1 2 3 4 5 6 7
40. Tearfulness.	1 2 3 4 5 6 7
41. Irregular or rapid heartbeats.	1 2 3 4 5 6 7
42. Feeling worthless.	1 2 3 4 5 6 7
43. Forgetting what you were trying to say.	1 2 3 4 5 6 7
44. Being easily angered when things went wrong.	1 2 3 4 5 6 7
45. Feeling mentally tired even after a good night's sleep.	1 2 3 4 5 6 7
46. Diarrhoea or constipation.	1 2 3 4 5 6 7
47. Feeling nervous.	1 2 3 4 5 6 7
48. Feeling sad.	1 2 3 4 5 6 7
49. The slightest effort making you mentally tired.	1 2 3 4 5 6 7
50. Feeling like you had a temperature.	1 2 3 4 5 6 7
51. Other people annoying you.	1 2 3 4 5 6 7
52. A sore throat.	1 2 3 4 5 6 7
53. Feelings of resentment.	1 2 3 4 5 6 7
54. Being slow to react.	1 2 3 4 5 6 7

APPENDIX H : The questionnaire was presented in study 5

MOOD STATES THIS WEEK (MSTW)

Instructions: Below are a list of words that describes feelings people have. We would like to know what degree each word describes **how you have been feeling during the past week.** Please circle the number which you feel most applies to you.

1. How attentive have you felt this week?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

2. How distressed have you felt this week?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

3. How proud?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

4. How nervous ?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

5. How sad have you felt this week?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

6. How sad have you felt this week?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

7. How active?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

8. How angry have you felt this week?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

9. How dissatisfied with yourself?
0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

10. How tired?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

11. How healthy have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

12. How calm?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

13. How guilty have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

14. How scared have felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

15. How happy?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

16. How emotionally strong have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

17. How confident have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

18. How angry at yourself?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

19. How upset?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

20. How alert have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

21. How irritated?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

22. How depressed?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

23. How enthusiastic have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

24. How sleepy?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

25. How warm-hearted have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

26. How excited have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

27. How hostile?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

28. How shaky?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

29. How determined have you felt this week?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

30. How content?

0= Not At All 1=A little 2= Moderately 3= Quite A Bit 4= Extremely

APPENDIX I :The questionnaire was presented in study 5

HEALTH RELATED BEHAVIOURS QUESTIONNAIRE (HRBQ)

1. Do you smoke at least one cigarette a day? **No** **Yes**

2. How often do you feel rested from your nights sleep?

0=never **1=almost** **2=sometimes** **3=fairly often** **4=very often**

3. Which of the following best describes your current exercie pattern? Please tick.

I don't exercise and I don't intend to start.

I don't exercise but I 'm thinking about starting.

I exercise once in a while but not regularly.

I exercise regularly but started only recently.

I exercise regularly (for longer than 6 months).

I've exercised regularly in the past but not now.

APPENDIX J : The task was presented in study 6

INSTRUCTIONS: Norinder Mental Arithmetic Test

You are to work as accurately and rapidly as you can. The rules for each item are as follows: If the sum or difference in the upper row is greater than that in the lower one, the lower result is subtracted from the upper one the two results are added. In both cases all calculations are made in the head, and only the final answer is written below each problem. Three examples are worked out for you immediately below. If you have any questions regarding the procedure as me before beginning.

8 + 4	9 + 5	6 + 9
7 + 3	7 + 7	8 + 8
--------	--------	--------
2	28	31

7+6	8-5	8+9	5-3	9+7	4+6	8+4	3+8	8+9	8-3	6+5	8-2
3+8	6+2	4+7	7-2	5+2	8-5	3+6	2+7	5+4	9-2	4+8	6+9
5+8	6+3	9-2	5+6	4+7	7+6	5+4	6+8	3+3	2+6	6+7	4+6
2+9	2+4	2+3	4+2	8+4	5+9	9+8	3+5	9-2	9+7	8-2	3+8
4+8	7+4	8-4	7+6	8+6	8+4	2+6	7+2	5+4	9-2	5+3	8-2
2+3	6+3	9-2	4+2	3+2	8-3	9-2	8+4	9+9	8+7	9+7	6+9
7+5	5+4	4+4	9+3	5+3	9+6	8+7	4+9	9-2	8+7	8+2	3+2
8-3	8-6	4+5	2+3	8+6	7+2	9-2	5+2	8+8	6+2	9-2	8-2
9-5	6+9	3+5	5+8	9+7	9-4	8+7	9+4	5+7	7-4	8-3	6+7
8+9	9-3	8+7	8-2	5+4	5+2	9-2	4+3	8+5	9+9	9+8	5+2
8-3	7+8	5+6	9-2	8+7	8+9	7-3	7+7	8-4	9-4	7+9	9-2
9-2	4+2	2+2	8+8	5+2	6+2	9+8	6+2	9-3	8+9	3+4	9+9
7+8	6-3	3+6	6+7	9-3	7-2	9+6	8+9	8-3	7+7	3+4	8+8
5+3	9-2	6+6	4+3	9-2	9+8	5+4	6+2	9-3	6+3	7+2	4+5
8-2	6+7	8-4	7+2	8-3	9+7	7-2	7+8	9+5	8+3	9+3	9+6
7+9	4+3	9+9	4+9	9+8	5+4	9+9	2+4	5+3	2+5	6+2	4+4
7+7	8-3	8+6	7-3	7+8	9-5	8-3	7+9	8+8	7-3	9+6	3+6
2+4	9+8	9-4	8+7	9-3	6+2	9+9	5+2	6+3	7+2	5+2	9+7
8-3	7+8	9-2	7-2	9+8	8+8	9+7	8+6	3+8	6+9	9+5	7-3
8+9	5+3	5+9	9+9	4+4	9-2	3+4	6+2	9+8	5+7	6+2	9-2

9+8	9-2	6+5	7+2	8+7	7+5	6+2	9-2	3+5	5+8	6+9	8-3
5+4	6+8	3+4	5+9	2+5	5+3	8+9	7+8	7+9	2+4	5+2	9+9
7-3	8+4	9+6	8-6	6-2	8-5	7+8	9+7	9-2	7+7	5+6	8-2
9+8	5+2	7+2	5+4	9+7	3+5	5+2	5+4	8+9	6+3	4+3	9+9
8+6	7+9	6+7	4+7	9-4	3+8	8+8	7+6	9-2	3+5	4+7	6+5
5+2	9-3	4+5	8+9	5+3	6+7	3+6	2+4	8+6	7+9	8-3	8+7
9-6	9-3	5+9	6+7	4+9	8+5	5+8	6+8	7+3	9-3	5+9	8-3
8+3	5+6	3-3	5+4	3+5	9-3	8+7	9+2	9+8	7+6	3+4	4-3
7+3	7-5	4+7	8+5	6+3	7+9	8+6	6+7	8-3	7+8	3+2	8+7
5+3	9-3	6-3	4+7	9-4	4+3	5+3	7+9	6+8	9-2	9+6	9-3
5+9	9-3	3+6	5+3	7-3	8+5	6-3	6+7	3+9	9-2	7+8	9-3
7+6	8+2	8+9	6-2	6+6	9+4	8-2	8+7	8+4	6-4	5+3	6+8
7+9	8-3	7+6	9-3	8-3	4+5	9-3	8+2	9-5	6+3	9+7	6+9
9+9	5+6	2+5	7+6	5+8	8+7	7+6	9+5	8-2	4+9	2+4	8+8
5+6	6+3	8+6	8-3	5+4	4+9	6+3	9-3	7+4	6+5	5+7	3+4
9-3	5+6	7+4	9+6	7+8	3+5	9+6	6+8	8+9	4+3	3+6	5+8
4+5	3+9	7+2	8-3	7+9	5+9	7-3	6+5	6+7	5+6	6+9	8-3
9-2	5+2	8+6	2+4	4+5	8+8	5+9	4+8	8-5	7+8	8+3	5+6
5+9	6+7	3+9	5+8	4+9	6+8	6+3	9-4	6+9	8-2	7+9	7-5
8-2	5+4	2+4	2+5	9-3	7+8	9+2	7+8	6+8	3+4	4-3	5+3

6+8	7+4	9-4	8+9	8-2	6+3	7+9	9-3	7-4	6+7	7-2	8+7
5+4	3+4	8-2	7+2	9+9	8+9	5+2	8+7	9-2	8-3	9+9	5+3

8-3	9+7	9-5	8+7	9+8	7-2	9-3	7+7	8+9	9-2	6+9	8-2
7+9	6+3	9+9	3+4	3+5	9+8	9+2	6+2	7+2	7+9	4+4	9-2

7+5	8-2	6+5	9+3	5+4	9-2	7+4	6+9	8-2	4+9	8-3	7-4
9-4	7+8	7-3	8-5	8+7	6+3	9-5	5+6	9+7	5+3	7+9	9+8

8+7	8-2	5+8	9+8	8-3	7+9	9-6	5+4	8-4	9+7	8+9	6+9
9-3	9+9	7-3	7+2	9+7	9-2	8+9	7+8	9+8	5+4	5+2	9-2

8-2	9+7	7+6	5+4	8-3	8+3	5+8	7-2	5+7	9+5	9-3	7-2
9+6	4+3	9-3	5+8	7+9	9-4	7-3	8+9	9-4	8-2	5+2	9+7

7-2	8+6	9+5	8+7	8+3	4+2	5+9	9-3	7-3	8+9	9-2	5+8
9+7	4+2	6+2	4+3	9+8	9-2	8-3	8+7	9+9	3+5	6+8	9-3

6+9	8-2	8+7	9-3	8+9	7+9	8-3	7-4	6+7	7+4	6+8	9-3
5+3	9+9	9-2	9+7	7+4	5+2	9-2	5+3	4+2	2+3	8+7	8+9

7-2	8+6	9+5	8+7	8+3	4+2	5+9	9-3	7-3	8+9	9-2	5+8
9+7	4+2	6+2	4+3	9+8	9-2	8-3	8+7	9+9	3+5	6+8	9-3

6+3	9-4	8+7	6+8	8-2	9+8	6+9	5+7	7-2	8-2	7+9	5+4
7+4	4+3	9-2	5+4	9+9	7+2	4+3	9-2	8+9	9-2	5+2	7+8

9-4	8+6	9-3	7+7	8+7	8-3	9-3	7+9	9-3	8-4	8-7	9+5
8+8	7-2	4+3	3+2	3+4	9-2	8+9	5+2	8+9	9-2	5+2	3+2

3+5	7+6	9-4	3+8	8-3	5+6	8+5	6+4	9-5	7+8	3-2	4+7
8-3	8+9	7+8	4+6	9-5	8+7	7-4	8+5	7+6	7+5	5+7	3+6
7-3	9-5	3+8	5+6	3+6	8-3	3+8	2+7	8-4	3+6	3+5	7-2
4-2	3+4	6+7	9+3	4-3	7+4	4+6	9-6	6-3	7+7	6-4	5-4
8+3	6+5	7+2	6+3	3+4	9-4	7-3	8-6	4+7	6+3	4+6	8-3
7-4	7+5	8-5	7+4	6+2	3+4	9-4	8-3	7+3	7+6	9+3	9-6
6+3	7+6	6+2	5+6	8+9	3+6	7-2	9+5	8+4	3+7	5+6	7-3
9-5	8+2	9-7	8-3	4+7	8-5	9-6	3+3	6+5	8+3	8-2	9-4
6+6	4-2	8+9	3+7	5+8	8-4	6+8	7+9	8+8	3+8	3+2	5+2
4+7	4-2	8+9	3+7	5+8	8-4	6+8	7+9	8+8	3+8	3+2	8-3
3+8	3+2	9+8	7-4	7+7	3+5	8-6	7+4	8-3	3+8	9+7	5+6
4+3	7+5	4+7	6-2	9-4	9+8	3+8	6+3	9-2	5+9	2+5	7+2
6+7	9-2	7+9	8+3	6+7	9+9	3+6	5+9	4-2	4+8	8-4	3+7
5+2	8+6	4+3	9-4	3+8	4+8	8+3	7+2	8+6	7+6	5+7	9-5
6+9	7+8	7-4	8+9	9-4	6-3	7+4	3+6	3+8	5+9	7+7	6+3
2+4	4+3	6+5	7+2	8-2	5+8	8-5	9-2	8+6	7-2	5+4	8-6
7-5	6-6	8+9	7+8	8-5	9+4	9-2	5-2	3+8	9+7	6-2	3+6
9-3	5+2	7+9	6+3	7+4	6+5	3+6	4+7	7+6	5+6	9-4	8+4

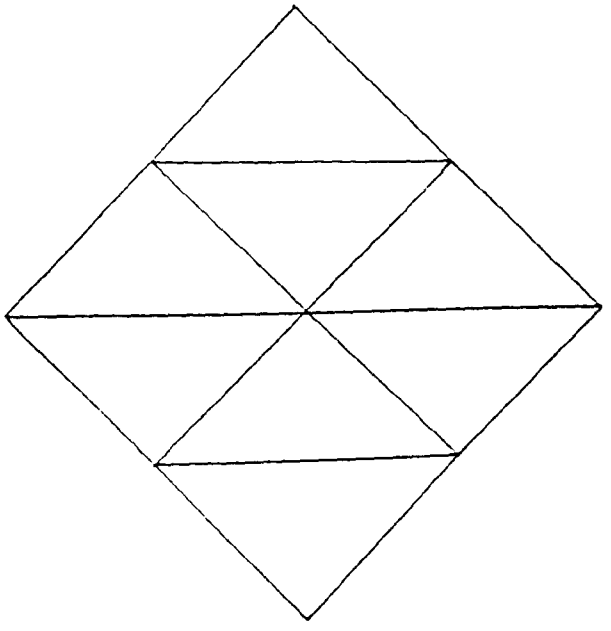
APPENDIX K : The test was presented in study 6

INSTRUCTION FOR AFTER EFFECT TEST:

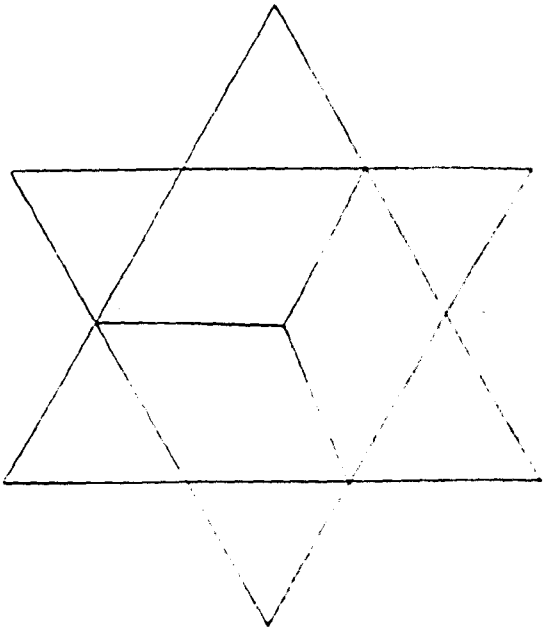
I want you to trace over all the lines of the figure without lifting your pen from the paper and without tracing over any lines twice. 10 minutes will be given you to complete the task. during this time, four diagrams will be shown to you. you can continue on each diagram for as long as you like, but if you chose to move on the next one, you could not return to unfinished figures.

BROKEN TEXT AND SOME POOR QUALITY IMAGES IN ORGINAL THESIS.

SET 1

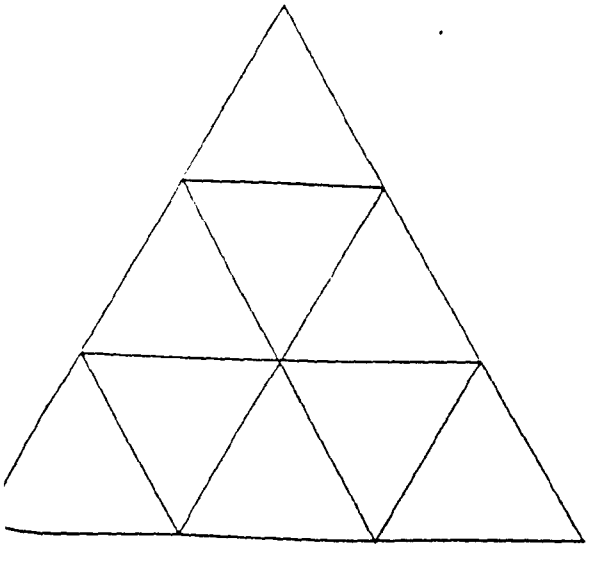


SOLVABLE FIGURE

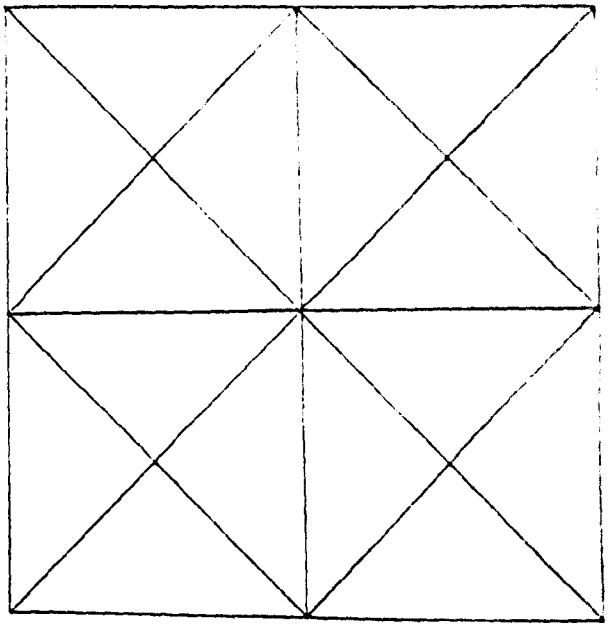


INSOLVABLE FIGURE

SET 2



SOLVABLE FIGURE



INSOLVABLE FIGURE

APPENDIX L: The questionnaire was presented in study 6

EFFORT + TASK DEMANDS

Could you please indicate on the 7 -point scale below the amount of effort you put into doing the task you have just completed.

As marked on the scale, 1 represents little or no effort, while 7 represents maximum effort. Please indicate by circling the number that best represents your perception of effort on the task.

1	2	3	4	5	6	7
Little or no effort						Maximum effort

Could you please indicate on the second scale how demanding you felt the task to be. On this occasion, 1 represents not at all demanding, while 7 represents very demanding. Please indicate by circling the appropriate number.

1	2	3	4	5	6	7
Not at all demanding						Very demanding

APPENDIX M:These ratings were presented in study 6

Instructions for the VAS Mood Ratings

These ratings are not timed so there is no need to hurry over them. We want you to rate how Drowsy / Alert, Relaxed / Excited, etc. you feel at the time. In each case you should do this by putting a short vertical stroke at the appropriate point on the scale provided. Please do not rush through these ratings, but think carefully about each scale, and your positioning on it.

e.g. **(a) Drowsy / Alert**

In the case of the Drowsy / Alert scale you should imagine that the extreme left - hand end of the scale represents the most Drowsy that you ever normally feel, and the extreme right the most Alert that you ever normally feel. You should put your mark through the line to indicate exactly how Drowsy or Alert you feel at the time. For example, if you felt neither particularly alert nor particularly drowsy your response might look like this:-

DROWSY _____/_____ ALERT

or this:-

DROWSY _____/_____ ALERT

depending on exactly how alert or drowsy you felt. The upper example obviously represents a slightly drowsier feeling than the lower one.

(b) Relaxed / Excited

The Relaxed / Excited scale should be used in a similar manner to indicate how relaxed or excited you feel at the time. Thus the extreme left - hand and of the line represents the most excited you ever normally feel. Put your mark at the position that best represents how relaxed or excited you feel at the time. For example, if you felt extremely excited compared to normal your response might look like this: -

RELAXED _____/_____ EXCITED

but if you're just slightly more relaxed than normal response might look like this:-

RELAXED _____/_____ EXCITED

(c) Strong / Feeble (and all other scales on the normal form)

Use these scales in exactly the same way as the previous two to indicate how Strong or Feeble etc. you feel at the time. As before, the extreme left - hand end represents the most Strong you ever normally feel and the extreme right the most Feeble you ever normally feel.

THE VISUAL -ANALOGUE SCALES (VAS)

Drowsy	_____	Alert
Relaxed	_____	Excited
Strong	_____	Feeble
Muzzy	_____	Clear - headed
Well - coordinated	_____	Clumsy
Lethargic	_____	Energetic
Contented	_____	Discontented
Troubled	_____	Tranquil
Mentally slow	_____	Quick -witted
Tense	_____	Calm
Attentive	_____	Dreamy
Incompetent	_____	Proficient
Happy	_____	Sad
Antagonistic	_____	Friendly
Interested	_____	Bored
Withdrawn	_____	Sociable
Depressed	_____	Elated
Self -centred	_____	Outward - going

APPENDIX N: In this section, Turkish version of the questionnaires are presented in the same order as in English version.

INTERN DOKTORLARDAKI STRESS NEDENLERI VE BU NEDENLERIN YARATIGI STRESS DUZEYI

Doktoramin ilk asamasi olarak, Turkiye ve Ingiltere'deki intern doktorlardaki stress kaynaklarini ve bu kaynaklarin yaratigi stress duzeyini arastiriyorum. Bu anketin verilmesinin amaci yukaridaki konu ile bilgileri saglamaktir. Bu nedenle eger bu anketi doldurursaniz cok sevinirim. **Anketi doldururken mumkun oldugu kadar kendinizce en uygun ve en dogru cevabi vermeye calisiniz lutfen.**

Bu anketi gosterecginiz ilgi icin tessekkurler.

Isiniz hakkindaki sorulari cevaplamaya baslamadan once asagidaki kismi doldurunuz lutfen.

1) Yasiniz:

2) Cinsiyetiniz

3)Medeni durumunuz

Eger evli ve cocuk sahibiyseniz:

4) Cocuk sayisi

5) Su anda hangi serviste (cocuk hastaliklari, kadin - dogum vs.) calisiyorsunuz?

6) Ne kadar suredir bu serviste calisiyorsunuz?

7) Daha once hangi serviste calistiniz?

Biz asagidaki durumlarin sizde ne kadar siklikta stress yaratigi ile ilgileniyoruz. Lutfen size en uygun cavabi daire icine aliniz.

1) Kisilik bakimindan zor hastalarla ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
2) Bu is icin bilgi ve becerilerinizin yeterli olmadigini dusunmek	Asla	Bazen	Sik, sik	Oldukca sik
3) Arac - gerec bakimindan yeterli calisma ortaminin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
4) Hasta yakinlari ile ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
5) Uzman doktorla ile olan iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik
6) Kendi akrabalarinizi tedavi etme durumunda kalmaniz	Asla	Bazen	Sik, sik	Oldukca sik
7) Agir calisma kosullari	Asla	Bazen	Sik, sik	Oldukca sik
8) Yeterli derecede hizmet saglamak icin gerekli elemanlarin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
9) Servis problemleri hakkinda diger servis elemanlariyla konusma firsatinin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
10) Bir intern doktor alarak cevreden yeterli saygi ve ilgi goremek	Asla	Bazen	Sik, sik	Oldukca sik
11) Olmekte olan hastalarla ugrasmak ve hastalarin olumu ile yuz yuze kalmak	Asla	Bazen	Sik, sik	Oldukca sik
12) Durumu kotuye giden hasta karsisinda kendinizi umutsuz hissetmek	Asla	Bazen	Sik, sik	Oldukca sik
13) Hemsirelerle olan iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik

14) Kazanilan deneyimlerin diger personnelle yeteri derecede paylasamamak	Asla	Bazen	Sik, sik	Oldukca sik
15) Is yasaminizin ev yasaminizi etkilemesi	Asla	Bazen	Sik, sik	Oldukca sik
16) Yeni teknoloji ile ugrasma	Asla	Bazen	Sik, sik	Oldukca sik
17) Hocalariniz tarafindan elestirilmek	Asla	Bazen	Sik, sik	Oldukca sik
18) Kariyer seciminde yeterli derecede yardimin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
19) Is basinda iken diger kisiler tarafindan ya da telefon ile rahatsiz edilmek	Asla	Bazen	Sik, sik	Oldukca sik
20) Sosyal faliyetler icin yeterince vakit bulamamak	Asla	Bazen	Sik, sik	Oldukca sik
21) Tedavi sirasinda hata yapma korkusu	Asla	Bazen	Sik, sik	Oldukca sik
22) Gun boyunca butun gorevlerinizi bitirmek icin yeterince vakit bulamamak	Asla	Bazen	Sik, sik	Oldukca sik
23) Arkadaslarinizi hasta olarak basvurumu ve onlari tedavi etmek durumunda kalmak	Asla	Bazen	Sik, sik	Oldukca sik
24) Uzman doktorlardan yeteri derecede destek gorememek	Asla	Bazen	Sik, sik	Oldukca sik
25) Hastanin durumu hakkinda hastaya ve akrabalarina ne diyecegini bilememek	Asla	Bazen	Sik, sik	Oldukca sik
26) Calisma saatlerinin cok uzun olmasi	Asla	Bazen	Sik, sik	Oldukca sik
27) Bir doktora dusen hasta sayisinin cok olmasi	Asla	Bazen	Sik, sik	Oldukca sik

28) Yeterli derecede egitimin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
29) Diger intern doktorlarla olan iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik
30) Hastanin duygusal ihtiyaclari ile ilgilenme	Asla	Bazen	Sik, sik	Oldukca sik
31) Sizden ne cesit bir is veriminin beklendigini bilememek iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik

Biz su anda calistiginiz serviste asagidaki durumlarin sizde ne duzeyde stress yaratigi ile ilgileniyoruz. Lutfen size en uygun cevabi icine aliniz.

1) Kisilik bakimindan zor hastalarla ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
2) Bu is icin bilgi ve becerilerinizin yeterli olmadigini dusunmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
3) Arac - gerec bakimindan yeterli calisma ortaminin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
4) Hasta yakinlari ile ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
5) Uzman doktorla ile olan iliskileriniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
6) Kendi akrabalarinizi tedavi etme durumunda kalmaniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
7) Agir calisma kosullari	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
8) Yeterli derecede hizmet saglamak icin gerekli elemanlarin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
9) Servis problemleri hakkinda diger servis elemanlariyla konusma firsatinin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
10) Bir intern doktor alarak cevreden yeterli saygi ve ilgi goememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
11) Olmekte olan hastalarla ugrasmak ve hastalarin olumu ile yuz yuze kalmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
12) Durumu kotuye giden hasta karsisinda kendinizi umutsuz hissetmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

13) Hemsirelerle olan iliskileriniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
14) Kazanilan deneyimlerin diger personnelle yeteri derecede paylasamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
15) Is yasaminizin ev yasaminizi etkilemesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
16) Yeni teknoloji ile ugrasma	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
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18) Kariyer seciminde yeterli derecede yardimin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
19) Is basinda iken diger kisiler tarafindan ya da telefon ile rahatsiz edilmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
20) Sosyal faliyetler icin yeterince vakit bulamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
21) Tedavi sirasinda hata yapma korkusu	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
22) Gun boyunca butun gorevlerinizi bitirmek icin yeterince vakit bulamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
23) Arkadaslarinizi hasta olarak basvurumu ve onlari tedavi etmek durumunda kalmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
24) Uzman doktorlardan yeteri derecede destek goremek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
25) Hastanin durumu hakkinda hastaya ve akrabalarina ne diyecegini bilememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

26) Calisma saatlerinin cok uzun olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
27) Bir doktora dusen hasta sayisinin cok olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
28) Yeterli derecede egitimin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
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31) Sizden ne cesit bir is veriminin beklendigini bilememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

DOKTORLARDAKI STRESS NEDENLERI VE BU NEDENLERIN YARATIGI STRESS DUZEYI

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Bu anketi gosterecginiz ilgi icin tessekkurler.

Isiniz hakkindaki sorulari cevaplamaya baslamadan once asagidaki kismi doldurunuz lutfen.

1) Yasiniz:

2) Cinsiyetiniz

3)Medeni durumunuz

Eger evli ve cocuk sahibiyseniz:

4) Cocuk sayisi

5) Ne kadar suredir asistan doktor olarak calisiyorsunuz?

6) Hangi serviste (kadin - dogum, pediatri vs.) calisiyorsunuz?

Biz asagidaki durumlarin sizde ne kadar siklikta stress yaratigi ile ilgileniyoruz. Lutfen size en uygun cavabi daire icine aliniz.

1) Kisilik bakimindan zor hastalarla ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
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7) Agir calisma kosullari	Asla	Bazen	Sik, sik	Oldukca sik
8) Yeterli derecede hizmet saglamak icin gerekli elemanlarin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
9) Servis problemleri hakkinda diger servis elemanlariyla konusma firsatinin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
10) Bir doktor alarak cevreden yeterli saygi ve ilgi goremek	Asla	Bazen	Sik, sik	Oldukca sik
11) Olmekte olan hastalarla ugrasmak ve hastalarin olumu ile yuz yuze kalmak	Asla	Bazen	Sik, sik	Oldukca sik
12) Durumu kotuye giden hasta karsisinda kendinizi umutsuz hissetmek	Asla	Bazen	Sik, sik	Oldukca sik
13) Hemsirelerle olan iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik

14) Kazanilan deneyimlerin diger personnelle yeteri derecede paylasamamak	Asla	Bazen	Sik, sik	Oldukca sik
15) Is yasaminizin ev yasaminizi etkilemesi	Asla	Bazen	Sik, sik	Oldukca sik
16) Yeni teknoloji ile ugrasma	Asla	Bazen	Sik, sik	Oldukca sik
17) Is basinda iken diger kisiler tarafindan ya da telefon ile rahatsiz edilmek	Asla	Bazen	Sik, sik	Oldukca sik
18) Sosyal faliyetler icin yeterince vakit bulamamak	Asla	Bazen	Sik, sik	Oldukca sik
19) Tedavi sirasinda hata yapma korkusu	Asla	Bazen	Sik, sik	Oldukca sik
20) Gun boyunca butun gorevlerinizi bitirmek icin yeterince vakit bulamamak	Asla	Bazen	Sik, sik	Oldukca sik
21) Arkadaslarinizi hasta olarak basvurumu ve onlari tedavi etmek durumunda kalmak	Asla	Bazen	Sik, sik	Oldukca sik
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24) Bir doktora dusen hasta sayisinin cok olmasi	Asla	Bazen	Sik, sik	Oldukca sik
25) Yeterli derecede egitimin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
26) Hastanin duygusal ihtiyaclari ile ilgilenme	Asla	Bazen	Sik, sik	Oldukca sik

27) Sizden ne cesit bir is veriminin beklendigini bilememek iliskileriniz	Asla	Bazen	Sik, sik	Oldukca sik

Biz su anda calistiginiz serviste asagidaki durumlarin sizde ne duzeyde stress yaratigi ile ilgileniyoruz. Lutfen size en uygun cevabi icine aliniz.

1) Kisilik bakimindan zor hastalarla ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
2) Bu is icin bilgi ve becerilerinizin yeterli olmadigini dusunmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
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4) Hasta yakinlari ile ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
5) Uzman doktorla ile olan iliskileriniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
6) Kendi akrabalarinizi tedavi etme durumunda kalmaniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
7) Agir calisma kosullari	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
8) Yeterli derecede hizmet saglamak icin gerekli elemanlarin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
9) Servis problemleri hakkinda diger servis elemanlariyla konusma firsatinin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
10) Bir doktor alarak cevreden yeterli saygi ve ilgi goremek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
11) Olmekte olan hastalarla ugrasmak ve hastalarin olumu ile yuz yuze kalmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
12) Durumu kotuye giden hasta karsisinda kendinizi umutsuz hissetmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

13) Hemsirelerle olan iliskileriniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
14) Kazanilan deneyimlerin diger personnelle yeteri derecede paylasamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
15) Is yasaminizin ev yasaminizi etkilemesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
16) Yeni teknoloji ile ugrasma	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
17) Is basinda iken diger kisiler tarafindan ya da telefon ile rahatsiz edilmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
18) Sosyal faliyetler icin yeterince vakit bulamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
19) Tedavi sirasinda hata yapma korkusu	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
20) Gun boyunca butun gorevlerinizi bitirmek icin yeterince vakit bulamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
21) Arkadaslarinizi hasta olarak basvurumu ve onlari tedavi etmek durumunda kalmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
22) Hastanin durumu hakkinda hastaya ve akrabalarina ne diyecegini bilememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
23) Calisma saatlerinin cok uzun olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
24) Bir doktora dusen hasta sayisinin cok olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

25) Yeterli derecede egitimin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
26) Hastanin duygusal ihtiyaclari ile ilgilenme	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
27) Sizden ne cesit bir is veriminin beklendigini bilememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

OGRETMENLERDE STRESS NEDENLERI VE BU NEDENLERIN YARATIGI STRESS DUZEYI

Doktoramin ilk asamasi olarak, Turkiye ve Ingiltere'deki yeni mezun olmus ogretmenlerdeki stress kaynaklarini ve bu kaynaklarin yaratigi stress duzeyini arastiriyorum . Bu anketin verilmesinin amaci yukaridaki konu ile bilgileri saglamaktir. Bu nedenle eger bu anketi doldurursaniz cok sevinirim. **Anketi doldururken mumkun oldugu kadar kendinizce en uygun ve en dogru cevabi vermeye calisiniz lutfen.**

Bu anketi gosterecginiz ilgi icin tessekkurler.

Isiniz hakkindaki sorulari cevaplamaya baslamadan once asagidaki kismi doldurunuz lutfen

1) Yasiniz:

2) Cinsiyetiniz :

3) Madeni durumunuz

Eger evli ve cocuk sahibiyseniz
4) Cocuk sayisi:

5) Ne tur bir okulda (ilkokul, ortaokul vs.) calisiyorsunuz?

6) Ne kadar suredir ogretmen olarak calisiyorsunuz?

7) Hangi alanda (fizik, kimya, edebiyat vs.) ogretiyorsunuz?

Not: Eger ilkokul ogretmeniseniz lutfen anketteki 41. soruyu cevaplamadan geciniz.

Asagida belirtilen durumlar ile ne kadar siklikla karsilastiginizi ogrenmek istiyoruz. Lutfen size en uygun olan yanitin altini ciziniz.

1. Ogrencilerin uygunsuz davranisi	Asla	Bazen	Sik, sik	Oldukca sik
2. Okul binasinin ve arac - gereclerin yetersiz olmasi	Asla	Bazen	Sik, sik	Oldukca sik
3. Bir ogretmen olarak kendinizi yetersiz hissetmeniz	Asla	Bazen	Sik, sik	Oldukca sik
4. Diger meslektaslarinizla olan problemleriniz	Asla	Bazen	Sik, sik	Oldukca sik
5. Uzun calisma saatleri ile ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
6. Maaslarinizin yetersiz olmasi	Asla	Bazen	Sik, sik	Oldukca sik
7. Komsu siniflardan gelen gurultu ve diger rahatsiz edici faktorler	Asla	Bazen	Sik, sik	Oldukca sik
8. Gelmeyen bir ogretmen yerine derse girmeniz	Asla	Bazen	Sik, sik	Oldukca sik
9. Ogrenci velileri ile ilgili iliskilere bagli problemler	Asla	Bazen	Sik, sik	Oldukca sik
10. Toplum icerisinde mesleginizin genel statusu	Asla	Bazen	Sik, sik	Oldukca sik
11. Tek, tek ogrencilerinizle ilgilenecek kadar zamaninizin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
12. Kalabalik siniflarla ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
13. Zaman baskisi	Asla	Bazen	Sik, sik	Oldukca sik
14. Meslek gelisimle ilgili firsatlarin olmayisi	Asla	Bazen	Sik, sik	Oldukca sik
15. Degerleri ve standartlari koruma cabasi ile ilgili problemler	Asla	Bazen	Sik, sik	Oldukca sik

16. Is yasantinizin ozel yasantinizi etkilemesi	Asla	Bazen	Sik, sik	Oldukca sik
17. Idari kararlar hakkinda yeterince bilginin size ulasmamasi	Asla	Bazen	Sik, sik	Oldukca sik
18. Meslek ici egitim eksikliginden dogan problemler	Asla	Bazen	Sik, sik	Oldukca sik
19. Rol belirsizligi yada karmasasi	Asla	Bazen	Sik, sik	Oldukca sik
20. Calisma istegi olmayan ogrencilerle ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
21. Ogretmenlerin istek ve problemlerinin okul muduru tarafindan yeterince anlasilmamasi	Asla	Bazen	Sik, sik	Oldukca sik
22. Agir calisma kosullari	Asla	Bazen	Sik, sik	Oldukca sik
23. Okunacak yazililarin, idari islerin cok olmasi	Asla	Bazen	Sik, sik	Oldukca sik
24. Yuksek seviyedeki gurultu ile ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
25. Dersleri hazirlamak icin yeterince zamanin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
26. Ogrencilerin cogunun ders icin gerekli malzemeyle sinifa gelmemesi	Asla	Bazen	Sik, sik	Oldukca sik
27. Kisisel rahatlama ve eglence icin zamanin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
28. Ogrencilerin ilgisini derse cekmedeki zorluklar	Asla	Bazen	Sik, sik	Oldukca sik
29. Velilerle yeterince yardimlasamamak	Asla	Bazen	Sik, sik	Oldukca sik

30. Ogrencilerin sinif disindaki davranislariyla ilgili problemler	Asla	Bazen	Sik, sik	Oldukca sik
31. Kidemli ogretmenlerin sorunlara karsi ilgisizligi	Asla	Bazen	Sik, sik	Oldukca sik
32. Cabalariniza karsin okul muduru tarafindan yeterince destek gorememek	Asla	Bazen	Sik, sik	Oldukca sik
33. Yazililarin idari islerin zamaninda bitirilmesi	Asla	Bazen	Sik, sik	Oldukca sik
34. Ogrencileri cezalandirmak	Asla	Bazen	Sik, sik	Oldukca sik
35. Degisik kabiliyetteki ogrencilerden olusmus gruplarla ugrasmak	Asla	Bazen	Sik, sik	Oldukca sik
36. Okulla ilgili konulari konusabileceginiz bir kisinin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik
37. Ogrencileriniz ile ilgili sorumlulugunuzun (ornegin, onlarin sinav basarilari)	Asla	Bazen	Sik, sik	Oldukca sik
38. Mesleginizin sorumluluklarinin neler oldugunu tam olarak bilememek	Asla	Bazen	Sik, sik	Oldukca sik
39. Mesleki degerlendirmenin yetersizligi	Asla	Bazen	Sik, sik	Oldukca sik
40. Ogrencilerin, velilerin, ve meslektaslarinizin birbirleriyle catisan taleplerini gidermedeki zorluklar	Asla	Bazen	Sik, sik	Oldukca sik
41. Bir ogrenci tarafindan fiziksel olarak tehdit edilmek	Asla	Bazen	Sik, sik	Oldukca sik
42. Okul ile ilgili kararlarda goruslerinizi aciklama firsatinin olmamasi	Asla	Bazen	Sik, sik	Oldukca sik

43. Egitilmediginiz bir konuda ogretmek zorunda kalmaniz	Asla	Bazen	Sik, sik	Oldukca sik
44. Mufettislerin sinifinizi teftis etmesi	Asla	Bazen	Sik, sik	Oldukca sik

Biz asagida belirtilen durumlarin sizde ne duzeyde stress yaratigini bilmek istiyoruz. Lutfen size en uygun cevabi daire icine aliniz.

1. Ogrencilerin uygunsuz davranisi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
2. Okul binasinin ve arac - gereclerin yetersiz olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
3. Bir ogretmen olarak kendinizi yetersiz hissetmeniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
4. Diger meslektaslarinizla olan problemleriniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
5. Uzun calisma saatleri ile ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
6. Maaslarinizin yetersiz olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
7. Komsu siniflardan gelen gurultu ve diger rahatsiz edici faktorler	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
8. Gelmeyen bir ogretmen yerine derse girmeniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
9. Ogrenci velileri ile ilgili iliskilere bagli problemler	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
10. Toplum icerisinde mesleginizin genel statusu	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
11. Tek, tek ogrencilerinizle ilgilenecek kadar zamaninizin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
12. Kalabalik siniflarla ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
13. Zaman baskisi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
14. Meslek gelisimle ilgili firsatlarin olmayisi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

15. Degerleri ve standartlari koruma cabasi ile ilgili problemler	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
16. Is yasantinizin ozel yasantinizi etkilemesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
17. Idari kararlar hakkinda yeterince bilginin size ulasmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
18. Meslek ici egitim eksikliginden dogan problemler	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
19. Rol belirsizligi yada karmasasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
20. Calisma istegi olmayan ogrencilerle ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
21. Ogretmenlerin istek ve problemlerinin okul muduru tarafindan yeterince anlasilmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
22. Agir calisma kosullari	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
23. Okunacak yazililarin, idari islerin cok olmasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
24. Yuksek seviyedeki gurultu ile ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
25. Dersleri hazirlamak icin yeterince zamanin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
26. Ogrencilerin cogunun ders icin gerekli malzemeyle sinifa gelmemesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
27. Kisisel rahatlama ve eglence icin zamanin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
28. Ogrencilerin ilgisini derse cekmedeki zorluklar	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

29. Velilerle yeterince yardimlasamamak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
30. Ogrencilerin sinif disindaki davranislariyla ilgili problemler	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
31. Kidemli ogretmenlerin sorunlara karsi ilgisizligi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
32. Cabalariniza karsin okul muduru tarafindan yeterince destek gorememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
33. Yazililarin idari islerin zamaninda bitirilmesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
34. Ogrencileri cezalandirmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
35. Degisik kabiliyetteki ogrencilerden olusmus gruplarla ugrasmak	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
36. Okulla ilgili konulari konusabileceginiz bir kisinin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
37. Ogrencileriniz ile ilgili sorumlulugunuzun (ornegin, onlarin sinav basarilari)	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
38. Mesleginizin sorumluluklarinin neler oldugunu tam olarak bilememek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
39. Mesleki degerlendirmenin yetersizligi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
40. Ogrencilerin, velilerin, ve meslektaslarinizin birbirleriyle catisan taleplerini gidermedeki zorluklar	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
41. Bir ogrenci tarafindan fiziksel olarak tehdit edilmek	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

42. Okul ile ilgili kararlarda goruslerinizi aciklama firsatinin olmamasi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
43. Egitilmediginiz bir konuda ogretmek zorunda kalmaniz	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor
44. Mufettislerin sinifinizi teftis etmesi	Hic stress yaratmiyor	Biraz stress yaratiyor	Orta derecede stress yaratiyor	Oldukca cok stress yaratiyor

Bu anketteki sorular sizin geçen ay boyunca ne hissettiginiz, ne düsündügünüzle ilgili. Lütfen, her durum için ne hissettiginizi, ne düsündügünüzü uygun cevabı daire içine alarak belirtiniz.

1. Geçen ay boyunca ne kadar sıklıkta beklenmiyen bir durum için kendinizi üzgün hissettiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

2. Geçen ay boyunca, ne kadar sıklıkta sizin yasantınızdaki önemli seyleri kontrol edebilecek kapasitiye sahip olmadıgınızı hissettiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

3. Geçen ay boyunca, ne kadar sıklıkta kendinizi sinirli ve stress altında hissettiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

4. Geçen ay boyunca, ne kadar sıklıkta sizi rahatsız eden olaylarla ve günlük problemler ile basarı ile ugrastınız?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

5. Geçen ay boyunca, ne kadar sıklıkta sizin hayatınızda meydana gelen önemli degisikliklerle etkili bir sekilde basa çıktıgınızı hissettiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

6. Geçen ay boyunca, ne kadar sıklıkta kisisel problemlerinizi çözme konusunda kendinizi güvende hissetiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

7. Geçen ay boyunca, ne kadar sıklıkta olayların sizin istediginiz yolda gittigini hissettiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

8. Geçen ay boyunca, ne kadar sıklıkta kendinizi yapmanız gereken tüm seylerle yeterince basa çıkamazken buldunuz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

9. Geçen ay boyunca, ne kadar sıklıkta sizi kızdıran olayları kontrol edebildiniz?

Asla Hemen hemen hiç Bazen Oldukça sık Cok sık

10. Geçen ay boyunca, ne kadar sıklıkta kendinizi herseyin üstesinde hissettiniz?

Asla | Hemen hemen hiç | Bazen | Oldukça sık | Cok sık

11. Geçen ay boyunca, ne kadar sıklıkta sizin kontrolunuzun dısında olan durumlar icin kendinizi kızgın hissettiniz?

Asla | Hemen hemen hiç | Bazen | Oldukça sık | Cok sık

12. Geçen ay boyunca, ne kadar sıklıkta kendinizi basarı ile bittirmeniz gereken seyleri düsünürken buldunuz?

Asla | Hemen hemen hiç | Bazen | Oldukça sık | Cok sık

13. Geçen ay boyunca, ne kadar sıklıkta zamanınızı harcamanız gereken yönde kullandınız?

Asla | Hemen hemen hiç | Bazen | Oldukça sık | Cok sık

14. Geçen ay boyunca, ne kadar sıklıkta hayatınızdaki zorlukların artık üstesinden gelemiyecek kadar biriktigini hissettiniz?

Asla | Hemen hemen hiç | Bazen | Oldukça sık | Cok sık

Bu anket sizin için dogru ya da yanlıs olabilecek ifadeleri içeriyor. Her ifade için sizin açınızdan eger dogru olduguna eminseniz " kesinlikle dogru " , eger dogru oldugunu dusunmenize ragmen kesin olarak dogrulugundan emin degilseniz " muhtamelen dogru " seçeneklerini daire içine alınız. Aynı sekilde, eger sizin için yanlıs olduguna kesin olarak eminseniz " kesinlikle yanlıs ", eger yanlıs oldugunu dusunmenize ragmen kesin olarak yanlıslıgından emin degilseniz "muhtamelen yanlıs" seçenegini daire içine alınız.

1.Problemlerimi çözmede bana yardımcı olabileceklerine inandıgım birkaç arkadasım var.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

2. Eger herhangi birseyi (araba, giysi vs) tamir etmek için yardıma ihtiyacım olursa bana yardım edecek birisi daime vardır .
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

3. Arkadaslarımın büyük bir kısmı benden daha ilginçtirler.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

4. Benim basarılarımla gurur duyabilecek biri vardır.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

5. Kendimi yanlız hissetigim de konusabilecegim birkaç insan vardır.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

6. Ozel sorunlarım hakkında rahatça konusabilecegim bir kimse yok.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

7. Sık, sık arkadaslarım ya da ailemle karsılasır ya da konusurum.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

8. Tanıdıgım insanların büyük kısmı benim degerli bir insan oldugumu düsünürler.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

9. Sabah erken bir saatte bir yere yetismem gerekiyorsa (havaalanı, tren istasyonu gibi) arabası ile beni bırakacak birini bulmada çok zorlanırım.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

10. Cogu zaman arkadaslarım tarafından çevrelenmedigimi hissediyorum.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

11. Problemlerimle nasıl basa çıktıgım konusunda bana objektif olarak fikir verebilecek kimse yok.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

12. Zamanımı birlikte geçirmekten hoslandıgım birkaç degisik insan var.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

13.Sanırım arkadaslarım onların problemlerini çözmede yeterince yardımcı olamadıgımı düsünüyorlar.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

14. Hastalandıgım zaman beni doktora götürecek birini (arkadas, aile üyesi vs.) bulmada zorluk çekerim.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

15. Eger bir geziye gitmek istersem ya da bir gunluk bir yere (deniz kıyısına ya da sehirdısına), benimle gidecek birini bulmada zorluk çekerim.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

16. Eger herhangi bir sey yüzünden (elektrik veya su kesilmesi gibi) bir haftalıgına bir yerde kalmaya ihtiyacım olursa, beni evine kabul edecek birisini kolayca bulurum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

17. Ozel korkularımı ve endiselerimi paylasabilecegim birisinin olmadıgını düsünüyorum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

18.Eger hastaysam, benim günlük islerime yardımcı olacak birisini kolayca bulurum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

19. Aile problemlerimi çözmem konusunda bana fikir verebilecek birisi vardır.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

20. Bircok seyi diger insanlarin yaptigi kadar iyi yaparım.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

21. Bir ögleden sonra eger dısarı gitmek için (sinemaya vs) karar verirsem o aksam benimle gidicek birisini bulurum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

22. Kisisel bir sorunumu çözmek için fikre ihtiyacım oldugunda bana yardım edebilecek birini bulurum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

23. Eger acilen 5.500.000 liraya ihtiyacım olursa, bana bu parayı verecek birisi vardır (arkadas, akraba vs).
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

24. Genel olarak, insanlar bana güvenmezler.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

25. Tanıdıgım birçok insan benim hoslandıgım seylerden hoslanmaz.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

26. Is degistirme veya gelecegimi planlamam ile ilgili bana ögüt verebilecek birisi vardır.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

27. Digerleriyle birseyler yapmaya davet edilmem.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

28. Arkadaslarımın çogu hayatlarında degisiklik yapmada benden daha basarılılar.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

29. Eger bir haftalıgına bir yere gitmem gerekse, benim evimle ilgilenecek birisi bulunur (çiçeklerle, bahçeyle vs).
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

30. Mali konuda bana iyi ögüt verebilecek gerçekten güvendigim birisi yok.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

31. Eger birisiyle öglen yemegi yemek istesem, benimle yemek istiyecek birisini kolayca bulabilirim.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

32. Pek çok kisinin kendi hayatlarından memnun oldugundan ben daha çok kendi hayatımdan memnunum.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

33. Eger evden 16 km.uzaklıkta parasız, yardıma muhtac bir durumda kalmıssam, arayabilecegim ve beni almaya gelebilecek biri daima vardir.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

34.Benim için yasgünü düzenliyecek birisini bilmiyorum.
kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

35. Bana arabasını birkaç saatligine ödünç verebilecek birisini bulmak zor olabilir (eger araba sürmüyorsanız farzedinki arabası olmayan fakat sizi arabası ile bırakabilecek).

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

36. Eger bir aile problemi ortaya çıkarsa, bu problemi çözmek için iyi bir ögüt verebilecek birisini bulmak zor olabilir.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

37. Arkadaslarıma diyer insanların kendi arkadaslarına olduklarından çok daha fazla yakınım.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

38.Tavsiyesine güvenebilecegim en azından bir kisi var.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

39. Eger yeni bir yere tasınırken yardıma ihtiyacım olsa idi, bana yardım edebilecek birisini bulmada zorluk çekebilirdim.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

40. Arkadaslarıma uymada, takip etmede daima zorluk cekiyorum.

kesinlikle dogru muhtamalen dogru muhtamalen yanlıs kesinlikle yanlıs

Güçlükler yada zorluklar rahatsız edicidirler. Seyrek yada sıklıkla ortaya cıkabilirler, küçük kızgınlıklardan, büyük baskılara, problemlere kadar yer alırlar.

Asagıda bir kisinin güclük ya da sıkıntı hissedebilecegi bir çok durum listelenmis bulunmaktadır lik olarak her durumu geçen ay içinde yasayıp yasamadıgınızı düsünün ve sadece yasadıgınız d durumları daire içine alınız. Daha sonrada seçtiginiz o durumların karsısında bulunar numaralardan size en uygun olanını isaretleyiniz.

Asagıda belirtilen durumlardan geçen ay boyunca yasamadıklarınızı lütfen daire içine almayınız.

Etkinlik derecesi

1= Az derecede

2= Orta derecede

3= Oldukça fazla derecede

1. Esyaların yerlerini karıstırmak yada kaybetmek.	1	2	3
2. Sorun yaratan komsular.	1	2	3
3. Sosyal gereklilikler.	1	2	3
4. Düsüncesizce sigara içenler.	1	2	3
5. Geleceginizle ile ilgili rahatsız edici düsünceler.	1	2	3
6. Olüm hakkındaki düsünceler.	1	2	3
7. Bir aile üyesinin saglıgı.	1	2	3
8. Giysi alacak kadar yeterince paranın olmaması.	1	2	3
9. Ev için yeterince paranın olmaması.	1	2	3
10. Borç para alma ile ilgili düsünceler.	1	2	3
11. Kredi alma ile ilgili düsünceler.	1	2	3
12. Acil durumlarda gerekli olabilecek para ile ilgili düsünceler.	1	2	3
13. Birilerinin size borçlu olması.	1	2	3
14. Sizinle yasamayan birisi ile ilgili parasal sorumluluk.	1	2	3
15. Elektrik, su gibi seylerin kesilmesi.	1	2	3
16. Gereginden fazla sigara içmek.	1	2	3
17. Alkol kullanımı.	1	2	3
18. Uyusturucu kullanmanız.	1	2	3
19. Geriginden fazla sorumluluk.	1	2	3
20. Coçuk sahibi olma ile ilgili kararlar.	1	2	3
21. Aileden olmayan birilerinin sizin evinizde yasaması.	1	2	3

	Etkinlik derecesi 1= Az derecede 2=Orta derecede 3=Oldukça fazla derecede		
22. Ev hayvanlarının bakımı.	1	2	3
23. Yemeklerin planlanması.	1	2	3
24. Yasamın anlamı ile ilgili düsünceler.	1	2	3
25. Rahatlama ile ilgili zorluklar.	1	2	3
26. Karar vermede ki güçlükler.	1	2	3
27. Calısma arkadaslarınızla ilgili problemler.	1	2	3
28. Müsterilerinizin size zor anlar vermesi.	1	2	3
29. Ev bakımı (içi ile ilgili olanlar).	1	2	3
30. Is guvenligi ile ilgili düsünceler.	1	2	3
31. Emeklilikle ilgili düsünceler.	1	2	3
32. Isten atılmak.	1	2	3
33. Simdiki isinizden yada sorumluluklarınızdan hoslanmamanız.	1	2	3
34. Calısma arkadaslarınızdan hoslanmamanız.	1	2	3
35.Temel gereksinimleriniz icin yeterince paranın olmaması.	1	2	3
36. Yiyecek icin yeterince paranın olmaması.	1	2	3
37. Gereginden fazla rahatsız edilmek.	1	2	3
38. Hesapta olmayan birileri ile birlikte olmak.	1	2	3
39. Gereginden fazla zamana sahip olmak.	1	2	3
40. Bekletilmek.	1	2	3
41. Kazalar ile ilgili düsünceler.	1	2	3
42. Yanlız olmak.	1	2	3
43. Saglık bakımı icin yeterince paranın olmaması.	1	2	3
44. Birileri ile anlasamama korkusu	1	2	3
45. Parasal bakımdan guvenlikte olmak.	1	2	3
46. Aptalca yapılan pratik hatalar.	1	2	3
47. Kendinizi anlatmada ki eksiklik.	1	2	3
48. Fiziksel hastalık.	1	2	3
49. Tedavi için aldıgınız ilaçların yan etkisi.	1	2	3
50. Tıbbı tedavi için düsünceler.	1	2	3
51. Fiziksel görünüm.	1	2	3
52. Reddedilme korkusu.	1	2	3
53. Hamile kalma ile ilgili zorluklar.	1	2	3

	Etkinlik derecesi 1= Az derecede 2=Orta derecede 3=Oldukça fazla derecede		
54. Fiziksel problemlerinizden dolayi seksle ilgili problemleriniz.	1	2	3
55. Fiziksel problemlerinizin dısındaki diger problemlerinden kaynaklanan seks ile ilgili problemler.	1	2	3
56. Genel saglıgınız ile ilgili düsünceler.	1	2	3
57. Yeterince insanla karsılasmamak.	1	2	3
58. Arkadaslarınızın yada akrabalarınızın uzakta olması.	1	2	3
59. Yemegin hazırlanması.	1	2	3
60. Zamanın bosa harcanması.	1	2	3
61. Araba bakımı.	1	2	3
62. Formların doldurulması.	1	2	3
63. Komsuluk iliskilerin kötüye gitmesi.	1	2	3
64. Cocuklarınızın egitimi ile ilgili harcamalar.	1	2	3
65. Isvereninizle ilgili problemler.	1	2	3
66. Isinizde kadın yada erkek olmanızdan kaynaklanan problemler.	1	2	3
67. Fiziksel becerilerde düsüs.	1	2	3
68. Baskaları tarafından kullanılmak.	1	2	3
69. Vücüt fonksiyonlari ile ilgili düsünceler.	1	2	3
70. Günlük hayatta kullanılan seylerdeki fiyat artisi.	1	2	3
71. Yeterince dinlenememek.	1	2	3
72. Yeterince uyuyamamak.	1	2	3
73. Yaslanan anne ve baba ile ilgili düsünceler.	1	2	3
74. Cocuklarınız ile ilgili problemler.	1	2	3
75. Sizden daha genc insanlar ile olan problemleriniz.	1	2	3
76. Sevgilinizle ilgili problemler.	1	2	3
77. Görmede veya duymada zorluklar.	1	2	3
78. Gereginden fazla aile sorumlulugu.	1	2	3
79. Yapılacak islerin cok olması.	1	2	3
80. Rekabeti olmayan is.	1	2	3
81. Yüksek seylerle karsı karsıya gelme korkusu.	1	2	3
82. Calısma arkadaslarınızla ya da arkadaslarınızla parasal olarak ugrasma.	1	2	3

	Etkinlik derecesi 1= Az derecede 2=Orta derecede 3=Oldukça fazla dereced		
83. Isinizden yeterince memnun kalmamanız.	1	2	3
84. Isinizi degistirme ile ilgili kararlar hakkında endiseler.	1	2	3
85. Okuma, yazma veya imla ile ilgili zorluklar.	1	2	3
86. Gereginden fazla toplantılar.	1	2	3
87. Ayrılma yada bosanma ile ilgili problemler.	1	2	3
88. Matematiksel yeteginizle ilgili zorluklar.	1	2	3
89. Dedikodu.	1	2	3
90. Hukuksal problemler.	1	2	3
91. Kilo ile ilgili düsünceler.	1	2	3
92. Yapılacak isleri yapıcak kadar yeterince vaktinizin olmaması.	1	2	3
93. Televizyon.	1	2	3
94. Yeterince kisisel enerjinizin olmaması.	1	2	3
95. Icsel catısmalarınızla ilgili düsünceler.	1	2	3
96. Yapılacaklar isler ile ilgili catısmada hissetmek.	1	2	3
97. Geçmiste alınan kararlar ile ilgili pismanlıklar.	1	2	3
98. Adet doneminizle ilgili problemler.	1	2	3
99. Hava durumu.	1	2	3
100. Gece kabusları.	1	2	3
101. Ilerleme ile ilgili düsünceler.	1	2	3
102. Patronunuz veya danısmanızla ilgili zorluklar.	1	2	3
103. Arkadaslarınızla ilgili zorluklar.	1	2	3
104. Aile icin yeterince vaktinizin olmaması.	1	2	3
105. Ulasım ile ilgili problemler.	1	2	3
106. Ulasım harcamalarınız icin yeterince paranızın olmaması.	1	2	3
107. Eglenmek ve alıskanlıklar icin yeterince paranın olmaması	1	2	3
108. Alısveris	1	2	3
109. Diger insanlar tarafından yapılan ayırımcılık ve önyargı	1	2	3
110. Mülk, yatırım veya vergiler.	1	2	3
111. Alıskanlıklar ve eglence için yeterince zamanın olmayısı.	1	2	3

	Etkinlik derecesi 1= Az derecede 2=Orta derecede 3=Oldukça fazla derecede		
112. Evin dısı ile ilgili bakım veya toprak isi.	1	2	3
113. Haberlerdeki olaylar ile ilgili düsünmek.	1	2	3
114. Gürültü	1	2	3
115. Suç.	1	2	3
116.Trafik.	1	2	3
117. Kirlilik.	1	2	3

Eger yukarıdaki listede geçmeyen fakat sizin yasadıgınız bir güçlük varsa, lütfen onları asagıya yazınız:

118._____

Bu anketi doldurusunuzu etkileyecek kadar hayatınızda bir degisiklik oldumu? Eger olduysa , lutfen ne oldugunu anlatırmısınız.

Asagıda verilen problemler size uyabilir veya uymayabilir. Her problemi, gecen hafta boyunc bugunde dahil) nederece yasadıgınızı belirtmeniz istenmektedir. Cevaplamadan önce faz düsünmemeniz ve size en uygun oldugunu düsündügünüz ilk sıkkı isaretlenmeniz istenmektedi Asagıda verilen problemleri atlamadan, cevaplarınızı 1'den 7 ' ye kadar olan numaralardan size e uygun olanı daire icine alarak belirtiniz. Lutfen unutmayınız ki biz sizin genel saglık durumunuz degil sadece gecen hafta ki durumunuzla ilgileniyoruz.

1 = Hiç bir zaman
4 = Bazen
7 = Çogu zaman

1. Kolay seyleri yaparken bile fiziksel olarak yorgun hissetmek.	1	2	3	4	5	6	7
2.Vucudunuzda agırlık hissetmek(elleriniz ayaklarınız).	1	2	3	4	5	6	7
3. Herseyden kolayca üzülmek	1	2	3	4	5	6	7
4.Dikkattinizi toplamada güçlük çekmek.	1	2	3	4	5	6	7
5.Mide agrısı.	1	2	3	4	5	6	7
6.Birseyler yapmak için fiziksel enerjinin olmaması.	1	2	3	4	5	6	7
7.Uzun sure ayakta kalmakta zorluk çekmek.	1	2	3	4	5	6	7
8. Kolayca sinirlenmek.	1	2	3	4	5	6	7
9. Bazi seyleri hatırlamada güçlük çekmek.	1	2	3	4	5	6	7
10. Dinlendikten sonra bile kaslarınızda halsizlik hissetmek.	1	2	3	4	5	6	7
11. Depresyonda hissetmek.	1	2	3	4	5	6	7

1 = Hiç bir zaman
4 = Bazen
7 = Çogu zaman

12. Dokunma karsısında kaslarınızın hemen acıması.	1	2	3	4	5	6	7
13. Düsünmede yavaslık.	1	2	3	4	5	6	7
14. Titremek veya seyirmek.	1	2	3	4	5	6	7
15. En hafif bir egzersizin bile sizi yorması.	1	2	3	4	5	6	7
16. Kolayca kızmak.	1	2	3	4	5	6	7
17. Bazı seyleri çözerken akılıca düsünmede zorluk çekmek.	1	2	3	4	5	6	7
18. Yanma, sızlama, veya karıncalama hisleri.	1	2	3	4	5	6	7
19. Vücüdunuzun bazı bölgelerinde hiç birsey hissedememek.	1	2	3	4	5	6	7
20. Sırt agrısı.	1	2	3	4	5	6	7
21. Endiseli hissetmek.	1	2	3	4	5	6	7
22. Kendinizi zihinsel olarak karısık hissetmek.	1	2	3	4	5	6	7
23. Ter nöbetleri (gece veya gündüz).	1	2	3	4	5	6	7
24.Fiziksel olarak yorgun hissetmek.	1	2	3	4	5	6	7
25. Bas dönmesi.	1	2	3	4	5	6	7
26. Dalgın, unutkan olmak.	1	2	3	4	5	6	7
27. Onemsiz seyler için endiselenmek.	1	2	3	4	5	6	7

1 = Hiç bir zaman
4 = Bazen
7 = Çogu zaman

28. Iyi bir gece uykusundan sonra bile fiziksel olarak yorgun hissetmek.	1	2	3	4	5	6	7
29. Insanların size ne söylediğini anlamada güçlük çekmek.	1	2	3	4	5	6	7
30.Gelecek hakkında karamsar olmak.	1	2	3	4	5	6	7
31. El ve ayakların soguk olması.	1	2	3	4	5	6	7
32. Kolay bir isi yaparken bile kendinizi yorgun hissedip o isi yapmayı durdurmak.	1	2	3	4	5	6	7
33. En küçük vücüt harekettinden sonra bile kaslarınızda yorgunluk hissetmek.	1	2	3	4	5	6	7
34.Birseyleri takip etmede zorluk çekmek (örnegin televizyonda bir dizi seyretmek gibi).	1	2	3	4	5	6	7
35. Sıcak veye soguk nöbetler.	1	2	3	4	5	6	7
36. Gergin hissetmek.	1	2	3	4	5	6	7
37. Bayılacak gibi hissetmek.	1	2	3	4	5	6	7
38. Dogru kelimeyi bulmada zorluk çekmek.	1	2	3	4	5	6	7
39. Titreme veya üsüme hissi.	1	2	3	4	5	6	7
40. Agliyacakmıs gibi hissetmek.	1	2	3	4	5	6	7
41. Düzensiz veya hızlı kalp atısları.	1	2	3	4	5	6	7
42. Kendinizi degersiz hissetmek.	1	2	3	4	5	6	7

1 = Hiç bir zaman
4 = Bazen
7 = Çogu zaman

43. Ne söyliyecegini unutmak.	1	2	3	4	5	6	7
44. Birseyler yanlıs gittiginde hemen kızmak.	1	2	3	4	5	6	7
45. Iyi bir gece uykusundan sonra bile zihinsel olarak yorgun hissetmek.	1	2	3	4	5	6	7
46. Ishal veya kabızlık.	1	2	3	4	5	6	7
47. Sinirli hissetmek.	1	2	3	4	5	6	7
48. Kederli , hüzünlü hissetmek.	1	2	3	4	5	6	7
49. En ufak bir çabanın bile sizi zihince yorgun bırakması.	1	2	3	4	5	6	7
50. Sanki atesiniz varmis gibi hissetmek.	1	2	3	4	5	6	7
51. Diger insanların sizi rahatsız etmesi, kızdırması.	1	2	3	4	5	6	7
52. Bogaz agrısı.	1	2	3	4	5	6	7
53. Kendinizi küskün, gücenmis gibi hissetmek.	1	2	3	4	5	6	7
54. Tepki göstermede yavaslama.	1	2	3	4	5	6	7

Asagıda verilen ifadeler listesi insanların duygularını yansıtıyorlar. Biz sizin bu ifadelerden herbirini gecen hafta boyunca ne derece hissettiginizi bilmek istiyoruz. Lutfen cevaplarınızı he ifadenin altında bulunan numaralardan size en uygun olanlarını daire icine alarak veriniz.

1. Bu hafta kendinizi nederece dikkatli hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

2. Bu hafta kendinizi nederece stress altında hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

3. Ne kadar gururlu?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

4. Ne kadar sinirli?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

5. Bu hafta kendinizi nekadar kederli, hüzünlü hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

6. Ne kadar aktive?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

7. Ne kadar arkadasça?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

8. Bu hafta kendinizi nekadar kızgın hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

9. Kendinizden nederece memnun degildiniz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

10. Ne derece yorgundunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

11. Bu hafta kendinizi nederece saglıklı hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

12. Nederece sakin?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

13. Bu hafta kendinizi nederece suçlu hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

14. Bu hafta kendinizi nederece gereksiz yere endiseli hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

15. Ne derece mutluydunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

16. Bu hafta kendinizi nederece duygusal yonden güclü hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

17. Bu hafta nederece kendinizi güvenli hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

18. Nederece kendinizle kızgındınız?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

19. Nederece üzgün?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

20. Bu hafta kendinizi nederece gözü açık, uyanık hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

21. Nederece gücendirilmis?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

22. Nederece depresyonda?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

23. Bu hafta kendinizi nekadar çoskulu hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

24. Nederece uykucu veya uyusuk?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

25. Bu hafta kendinizi ne kadar iyi kalpli hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

26. Bu hafta kendinizi nederece heyecanlı hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

27. Nederece düsmanca hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

28. Ne kadar sarsılmıs, kuvvetsiz hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

29. Bu hafta kendinizi nederece kararlı hissediyorsunuz?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

30. Ne derece memnun?

0=Hiç bir zaman 1=Cok az derecede 2=Orta derecede 3=Oldukça fazla derecede 4=Son derece fazla

1. Ne kadar sıklıkta gece uykusundan sonra kendinizi dinlenmis hissedersiniz?

asla genelde asla bazen oldukça sık çok sık

2. Günde enazından bir sigara içiyormusunuz? Evet Hayır

3. Asagıdaki tanımlardan hangisi sizin simdiki egzersiz modelinizi tanımlar?

a) Egzersiz yapmıyorum ve baslamayada niyetim yok.

b) Egzersiz yapmıyorum ama baslamaya niyetim var.

c) Egzersiz yapıyorum ama düzenli degil.

d) Egzeriz yapıyorum ama egzersiz yapmaya daha yeni basladım.

e) Düzenli egzersiz yaparım (altı aydan daha çok).

f) Geçmiste düzenli egzersiz yaptım fakat simdi degil.

TEST ILE ILGILI ON BILGI

Sizden mümkün oldugu kadar hızlı ve dogru çalısmanız istenmektedir. Bu testteki herbir problem için kural söyledir: Ustteki cizgideki toplamanın yada çıkarmanın sonucu eger alttaki cizgideki islem sonucundan büyükse, bu durumda alttaki islemin sonucu ustteki islemin sonucundan çıkarılır. Diger taraftan, asagıdaki islemin sonucu ustteki islemin sonucu ile aynı veya ondan büyükse bu durumda ustteki islemin sonucu alttaki islemin sonucu ile toplanır. Her iki durum için de bütün hesaplamalar zihinde yapılır , yanlızca en son cevap her problemin altına yazılır. Eger bu test ile ilgili herhangi bir sorunuz varsa baslamadan önce bana sorabilirsiniz.

Ornekler:	8 + 4	9 + 5	6 + 9
	7 + 3	7 + 7	8 + 8
	---	---	---
	2	28	31

7 + 6	8 - 5	8 + 9	5 - 3	9 + 7	4 + 6	8+ 4	3 + 8	8 + 9	8 - 3	6 +5	8 - 2
3 + 8	6 + 2	4 + 7	7 - 2	5 + 2	8 - 5	3 + 6	2 + 7	5 + 4	9 - 2	4 + 8	6 + 9

5 + 8	6 + 3	9 - 2	5 + 6	4 + 7	7 + 6	5 + 4	6 + 8	3 + 3	2 + 6	6 + 7	4 + 6
2 + 9	2 + 4	2 + 3	4 + 2	8 + 4	5 + 9	9 + 8	3 + 5	9 - 2	9 + 7	8 - 2	3 + 8

4 + 8	7 + 4	8 - 4	7 + 6	8 + 6	8 + 4	2 + 6	7 + 2	5 + 4	9 - 2	5 + 3	8 - 2
2 + 3	6 + 3	9 - 2	4 + 2	3 + 2	8 - 3	9 - 2	8 + 4	9 + 9	8 + 7	9 + 7	6 + 9

7 + 5	5 + 4	4 + 4	9 + 3	5 + 3	9 + 6	8 + 7	4 + 9	9 - 2	8 + 7	8 + 2	3 + 2
8 - 3	8 - 6	4 + 5	2 + 3	8 + 6	7 + 2	9 - 2	5 + 2	8 + 8	6 + 2	9 - 2	8 - 2

9 - 5	6 + 9	3 + 5	5 + 8	9 + 7	9 - 4	8 + 7	9 + 4	5 + 7	7 - 4	8 - 3	6 + 7
8 + 9	9 - 3	8 + 7	8 - 2	5 + 4	5 + 2	9 - 2	4 + 3	8 + 5	9 + 9	9 + 8	5 + 2

8 - 3	7 + 8	5 + 6	9 - 2	8 + 7	8 + 9	7 - 3	7 + 7	8 - 4	9 - 4	7 + 9	9 - 2
9 - 2	4 + 2	2 + 2	8 + 8	5 + 2	6 + 2	9 + 8	6 + 2	9 - 3	8 + 9	3 + 4	9 + 9

7 + 8	6 - 3	3 + 6	6 + 7	9 - 3	7 - 2	9 + 6	8 + 9	8 - 3	7 + 7	3 + 4	8 + 8
5 + 3	9 - 2	6 + 6	4 + 3	9 - 2	9 + 8	5 + 4	6 + 2	9 - 3	6 + 3	7 + 2	4 + 5

8 - 2	6 + 7	8 - 4	7 + 2	8 - 3	9 + 7	7 - 2	7 + 8	9 + 5	8 + 3	9 + 3	9 + 6
7 + 9	4 + 3	9 + 9	4 + 9	9 + 8	5 + 4	9 + 9	2 + 4	5 + 3	2 + 5	6 + 2	4 + 4

7 + 7	8 - 3	8 + 6	7 - 3	7 + 8	9 - 5	8 - 3	7 + 9	8 + 8	7 - 3	9 + 6	3 + 6
2 + 4	9 + 8	9 - 4	8 + 7	9 - 3	6 + 2	9 + 9	5 + 2	6 + 3	7 + 2	5 + 2	9 + 7

8 - 3	7 + 8	9 - 2	7 - 2	9 + 8	8 + 8	9 + 7	8 + 6	3 + 8	6 + 9	9 + 5	7 - 3
8 + 9	5 + 3	5 + 9	9 + 9	4 + 4	9 - 2	3 + 4	6 + 2	9 + 8	5 + 7	6 + 2	9 - 2

9+8	9-2	6+5	7+2	8+7	7+5	6+2	9-2	3+5	5+8	6+9	8-3
5+4	6+8	3+4	5+9	2+5	5+3	8+9	7+8	7+9	2+4	5+2	9+9
7-3	8+4	9+6	8-6	6-2	8-5	7+8	9+7	9-2	7+7	5+6	8-2
9+8	5+2	7+2	5+4	9+7	3+5	5+2	5+4	8+9	6+3	4+3	9+9
8+6	7+9	6+7	4+7	9-4	3+8	8+8	7+6	9-2	3+5	4+7	6+5
5+2	9-3	4+5	8+9	5+3	6+7	3+6	2+4	8+6	7+9	8-3	8+7
9-6	9-3	5+9	6+7	4+9	8+5	5+8	6+8	7+3	9-3	5+9	8-3
8+3	5+6	3-3	5+4	3+5	9-3	8+7	9+2	9+8	7+6	3+4	4-3
7+3	7-5	4+7	8+5	6+3	7+9	8+6	6+7	8-3	7+8	3+2	8+7
5+3	9-3	6-3	4+7	9-4	4+3	5+3	7+9	6+8	9-2	9+6	9-3
5+9	9-3	3+6	5+3	7-3	8+5	6-3	6+7	3+9	9-2	7+8	9-3
7+6	8+2	8+9	6-2	6+6	9+4	8-2	8+7	8+4	6-4	5+3	6+8
7+9	8-3	7+6	9-3	8-3	4+5	9-3	8+2	9-5	6+3	9+7	6+9
9+9	5+6	2+5	7+6	5+8	8+7	7+6	9+5	8-2	4+9	2+4	8+8
5+6	6+3	8+6	8-3	5+4	4+9	6+3	9-3	7+4	6+5	5+7	3+4
9-3	5+6	7+4	9+6	7+8	3+5	9+6	6+8	8+9	4+3	3+6	5+8
4+5	3+9	7+2	8-3	7+9	5+9	7-3	6+5	6+7	5+6	6+9	8-3
9-2	5+2	8+6	2+4	4+5	8+8	5+9	4+8	8-5	7+8	8+3	5+6
5+9	6+7	3+9	5+8	4+9	6+8	6+3	9-4	6+9	8-2	7+9	7-5
8-2	5+4	2+4	2+5	9-3	7+8	9+2	7+8	6+8	3+4	4-3	5+3

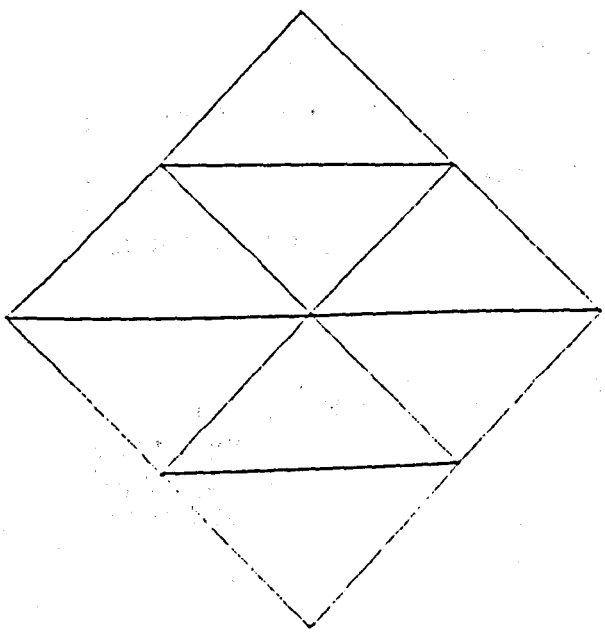
6 + 8	7 + 4	9 - 4	8 + 9	8 - 2	6 + 3	7 + 9	9 - 3	7 - 4	6 + 7	7 - 2	8 + 7
5 + 4	3 + 4	8 - 2	7 + 2	9 + 9	8 + 9	5 + 2	8 + 7	9 - 2	8 - 3	9 + 9	5 + 3
8 - 3	9 + 7	9 - 5	8 + 7	9 + 8	7 - 2	9 - 3	7 + 7	8 + 9	9 - 2	6 + 9	8 - 2
7 + 9	6 + 3	9 + 9	3 + 4	3 + 5	9 + 8	9 + 2	6 + 2	7 + 2	7 + 9	4 + 4	9 - 2
7 + 5	8 - 2	6 + 5	9 + 3	5 + 4	9 - 2	7 + 4	6 + 9	8 - 2	4 + 9	8 - 3	7 - 4
9 - 4	7 + 8	7 - 3	8 - 5	8 + 7	6 + 3	9 - 5	5 + 6	9 + 7	5 + 3	7 + 9	9 + 8
8 + 7	8 - 2	5 + 8	9 + 8	8 - 3	7 + 9	9 - 6	5 + 4	8 - 4	9 + 7	8 + 9	6 + 9
9 - 3	9 + 9	7 - 3	7 + 2	9 + 7	9 - 2	8 + 9	7 + 8	9 + 8	5 + 4	5 + 2	9 - 2
8 - 2	9 + 7	7 + 6	5 + 4	8 - 3	8 + 3	5 + 8	7 - 2	5 + 7	9 + 5	9 - 3	7 - 2
9 + 6	4 + 3	9 - 3	5 + 8	7 + 9	9 - 4	7 - 3	8 + 9	9 - 4	8 - 2	5 + 2	9 + 7
7 - 2	8 + 6	9 + 5	8 + 7	8 + 3	4 + 2	5 + 9	9 - 3	7 - 3	8 + 9	9 - 2	5 + 8
9 + 7	4 + 2	6 + 2	4 + 3	9 + 8	9 - 2	8 - 3	8 + 7	9 + 9	3 + 5	6 + 8	9 - 3
6 + 9	8 - 2	8 + 7	9 - 3	8 + 9	7 + 9	8 - 3	7 - 4	6 + 7	7 + 4	6 + 8	9 - 3
5 + 3	9 + 9	9 - 2	9 + 7	7 + 4	5 + 2	9 - 2	5 + 3	4 + 2	2 + 3	8 + 7	8 + 9
7 - 2	8 + 6	9 + 5	8 + 7	8 + 3	4 + 2	5 + 9	9 - 3	7 - 3	8 + 9	9 - 2	5 + 8
9 + 7	4 + 2	6 + 2	4 + 3	9 + 8	9 - 2	8 - 3	8 + 7	9 + 9	3 + 5	6 + 8	9 - 3
6 + 3	9 - 4	8 + 7	6 + 8	8 - 2	9 + 8	6 + 9	5 + 7	7 - 2	8 - 2	7 + 9	5 + 4
7 + 4	4 + 3	9 - 2	5 + 4	9 + 9	7 + 2	4 + 3	9 - 2	8 + 9	9 - 2	5 + 2	7 + 8
9 - 4	8 + 6	9 - 3	7 + 7	8 + 7	8 - 3	9 - 3	7 + 9	9 - 3	8 + 4	8 - 7	9 + 5
8 + 8	7 - 2	4 + 3	3 + 2	3 + 4	9 - 2	8 + 9	5 + 2	8 + 9	9 - 2	5 + 2	3 + 2

3 + 5	7 + 6	9 - 4	3 + 8	8 - 3	5 + 6	8 + 5	6 + 4	9 - 5	7 + 8	3 - 2	4 + 7
8 - 3	8 + 9	7 + 8	4 + 6	9 - 5	8 + 7	7 - 4	8 + 5	7 + 6	7 + 5	5 + 7	3 + 6
7 - 3	9 - 5	3 + 8	5 + 6	3 + 6	8 - 3	3 + 8	2 + 7	8 - 4	3 + 6	3 + 5	7 - 2
4 - 2	3 + 4	6 + 7	9 + 3	4 - 3	7 + 4	4 + 6	9 - 6	6 - 3	7 + 7	6 - 4	5 - 4
8 + 3	6 + 5	7 + 2	6 + 3	3 + 4	9 - 4	7 - 3	8 - 6	4 + 7	6 + 3	4 + 6	8 - 3
7 - 4	7 + 5	8 - 5	7 + 4	6 + 2	3 + 4	9 - 4	8 - 3	7 + 3	7 + 6	9 + 3	9 - 6
6 + 3	7 + 6	6 + 2	5 + 6	8 + 9	3 + 6	7 - 2	9 + 5	8 + 4	3 + 7	5 + 6	7 - 3
9 - 5	8 + 2	9 - 7	8 - 3	4 + 7	8 - 5	9 - 6	3 + 3	6 + 5	8 + 3	8 - 2	9 - 4
6 + 6	4 - 2	8 + 9	3 + 7	5 + 8	8 - 4	6 + 8	7 + 9	8 + 8	3 + 8	3 + 2	5 + 2
4 + 7	4 - 2	8 + 9	3 + 7	5 + 8	8 - 4	6 + 8	7 + 9	8 + 8	3 + 8	3 + 2	8 - 3
3 + 8	3 + 2	9 + 8	7 - 4	7 + 7	3 + 5	8 - 6	7 + 4	8 - 3	3 + 8	9 + 7	5 + 6
4 + 3	7 + 5	4 + 7	6 - 2	9 - 4	9 + 8	3 + 8	6 + 3	9 - 2	5 + 9	2 + 5	7 + 2
6 + 7	9 - 2	7 + 9	8 + 3	6 + 7	9 + 9	3 + 6	5 + 9	4 - 2	4 + 8	8 - 4	3 + 7
5 + 2	8 + 6	4 + 3	9 - 4	3 + 8	4 + 8	8 + 3	7 + 2	8 + 6	7 + 6	5 + 7	9 - 5
6 + 9	7 + 8	7 - 4	8 + 9	9 - 4	6 - 3	7 + 4	3 + 6	3 + 8	5 + 9	7 + 7	6 + 3
2 + 4	4 + 3	6 + 5	7 + 2	8 - 2	5 + 8	8 - 5	9 - 2	8 + 6	7 - 2	5 + 4	8 - 6
7 - 5	6 - 6	8 + 9	7 + 8	8 - 5	9 + 4	9 - 2	5 - 2	3 + 8	9 + 7	6 - 2	3 + 6
9 - 3	5 + 2	7 + 9	6 + 3	7 + 4	6 + 5	3 + 6	4 + 7	7 + 6	5 + 6	9 - 4	8 + 4

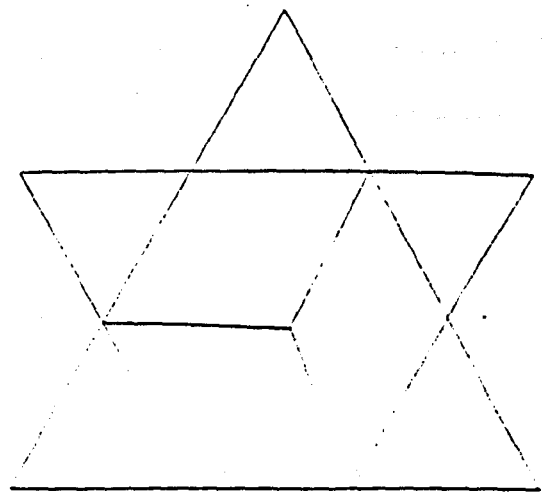
ON BILGI

Simdi sizden her sekil üzerindeki tüm çizgileri elinizi kagıttan kaldırmadan vede aynı çizgi üstünden birdaha gitmeden kalem ile bir kez gitmenizi istemekteyim. Deneyin bu kısmı için size sadece 10 dakika verilecektir. Bu süre içinde , dört sekil size gösterilecektir. Her sekil için ne kadar süre ayırmak istediginiz size bırakılmaktadır, fakat bir sonra ki sekile geçtiginizde bir önceki bitirilmemis sekle tekrar dönmeniz mümkün degildir.

SET 1

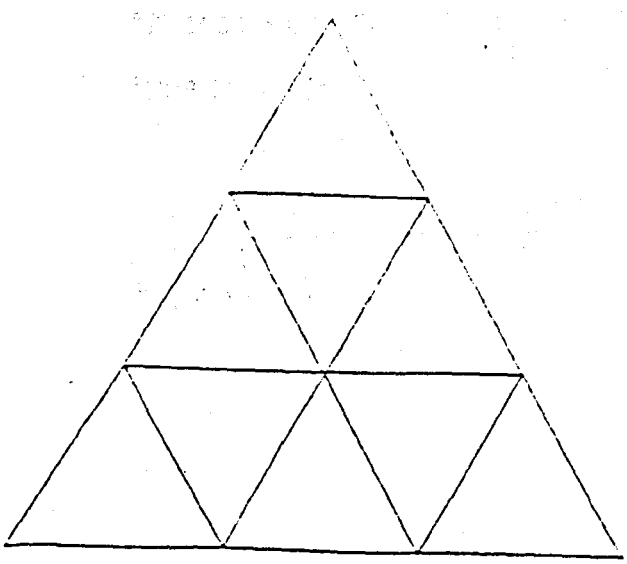


SOLVABLE FIGURE

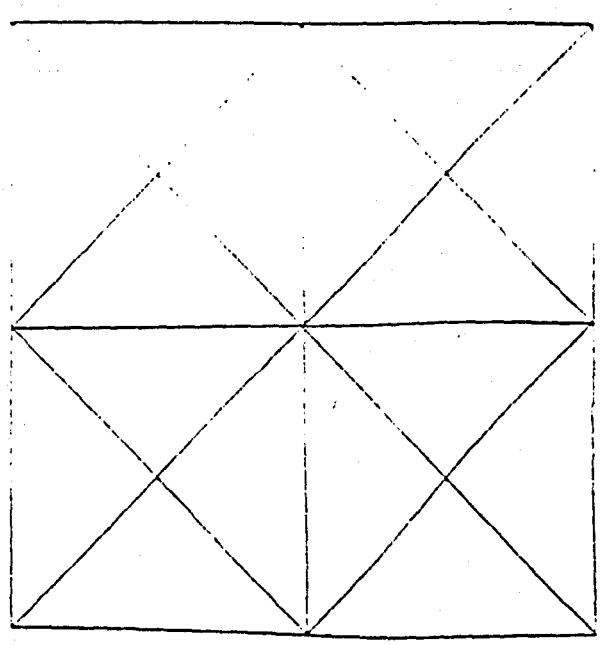


INSOLVABLE FIGURE

SET 2



SOLVABLE FIGURE



INSOLVABLE FIGURE

Testte gösterilen gayret + Test'tin zorluk derecesi

Lütfen asagıdaki 7 dereceli ölçek üzerinde su anda bitirdiginiz test'te gösterdiginiz gayret'in miktarını belirtiniz.

Olçek üzerinde isaretlediginiz zaman, " 1 " biraz veya hiç bir gayret göstermediginizi ifade ederken, "7 " en yüksek gayreti gösterdiginizi ifade etmektedir. Lütfen sizin ne derecede gayret gösterdiginizi temsil eden numarayı daire içine alarak belirtiniz.

1	2	3	4	5	6	7
Biraz veya hiç bir gayret göstermedim						En yüksek gayreti gösterdim

Lütfen asagıdaki ikinci ölçek üzerinde bu testtin ne derece zor bir test oldugunu gösteriniz. Burada, "1 " testtin zor olmadıgını temsil ederken, "7" testtin çok zor oldugunu ifade etmektedir. Lütfen uygun numarayı daire içine alarak gösteriniz.

1	2	3	4	5	6	7
Hiç zor degil						Çok zor

SU ANDAKI RUH HALINIZI TEST EDECEK OLAN OLÇEK IÇIN ON BILGI

Bu degerlendirme zaman ile sınırlı degil bundan dolayı simdiki degerlendirmeyi yaparken acele etmenize gerek yok. Biz sizin su anda ne derece uyusuk veya uyanık, rahat veya heyecanlı, vs. oldugunuzu belirtmenizi istiyoruz. Her ifade için ölçek üzerinde sizin su andaki durumunuzu ifade eden dereceye yatay bir çizgi çekmeniz gerekiyor. Bu isaretlemeyi yaparken lütfen hiç acele etmeyin, ve dikkatlice düsününüz.

(a) Uyusuk / Uyanık

Uyusuk ve uyanık ölçeginde , hayal edinki ölçegin en solundaki sizin normalde hissetiginiz en uyusuk durumunuzu , ölçegin en sagındaki de normalde hissettiginiz en uyanık halinizi ifade ediyor. Siz su anda nederece uyusuk ve uyanık oldugunuzu düsünüp , çizgi üzerinde durumunuzu ifade eden en uygun yere yatay bir çizgi cekiniz. Ornegin, su anda kendinizi ne fazla derecede uyusuk nede fazla nederece uyanık hissetmiyorsanız, sizin cevabınız asagıdaki gibi olmalıdır:

UYUSUK_____/_____UYANIK

veya su sekilde:

UYUSUK_____/_____UYANIK

En ustte gösterilen örnek' te sizin su anda çok az derecede de olsa uyusuk hissettiginiz ifade edilmektedir.

b) Rahat ve heyecanlı ölçeginde de yine sizden su anda nederece rahat veya heyecanlı oldugunuzu ifade etmeniz istenmektedir. Çizginin en solu sizin normalde hissettiginiz en rahat halinizi, cizginin en sagı ise sizin normalde hissettiginiz en heyecanlı halinizi ifade etmektedir. Lutfen su anda ne derece rahat ya da heyecanlı oldunuzu ifade eden isareti çizgi üzerinde en uygun yere koyunuz. Ornegin, eger su anda siz normalde oldugunuzdan çok daha fazla heyecanlı hissediyorsanız sizin cevabınızın asagıdaki gibi olması gerekiyor.

RAHAT_____/_____HEYECANLI

Fakat eger siz normalde hissettiginizden biraz fazla derecede rahat hissediyorsanız sizin cevabınızın asagıdaki gibi olması gerekiyor:

RAHAT_____/_____HEYECANLI

(c) Güçlü / Güçsüz (ve de form üstündeki diger ölçekler için)

Bu ölçegide diger ikisinde oldugu gibi kullanınız ve nederecede güçlü veya güçsüz oldugunuzu ifade ediniz.

Uyusuk	_____	Uyanik
Rahat	_____	Heyecanli
Guclu	_____	Gucsuz
Zihninizin karisik olmasi	_____	Zihninizin acik olmasi
Duzenli	_____	Daginik
Yorgun	_____	Enerji dolu olmak
Su andaki durumunuzun memnun olmak	_____	Su andaki durumunuzdan memnun olmamak
Endiseli	_____	Huzur dolu
Yavas dusunen	_____	Pratik zekali
Gergin	_____	Sakin
Dikkatli	_____	Dalgin
Yetersiz	_____	Yeterli
Mutlu	_____	Uzgun
Dusmanca	_____	Arkadasca
Ilgili	_____	Sikintili
Cekingen	_____	Sosyal
Depresyonda	_____	Cok mutlu
Ben merkezli	_____	Disa donuk

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